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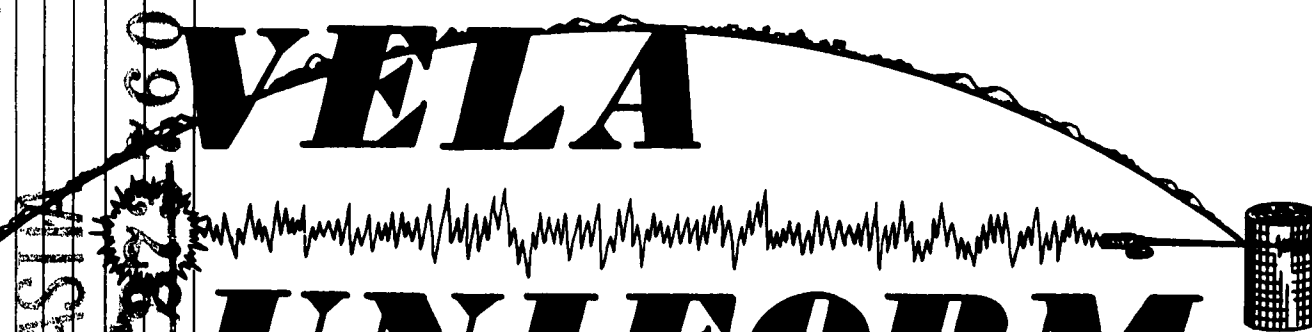
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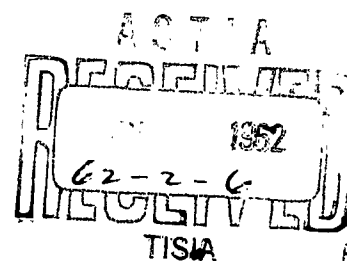
UNIFORM

PLOWSHARE PROGRAM

PRELIMINARY REPORT—PROJECT 1.3

TECHNICAL PHOTOGRAPHY OF SURFACE MOTION

Issuance Date: January 1962



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WASHINGTON 25, D. C.

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DEFENSE ATOMIC SUPPORT AGENCY
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January 1962

VUP-2202
PRELIMINARY REPORT
for
PLOWSHARE PROGRAM, PROJECT GNOME
Project 1.3, Edgerton, Germeshausen & Grier, Inc.

Technical Photography of Surface Motion

This preliminary report is issued on behalf of the Advanced Research Projects Agency, Department of Defense, to provide information which may prove of value in the study of data from underground nuclear tests.

This document is based on information available at the time of preparation and may subsequently be expanded and reevaluated.



LEO A. KILEY
Colonel, USAF
Deputy Chief of Staff
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VUP-2202

PLOWSHARE PROGRAM

PROJECT GNOME

PROJECT 1.3

TECHNICAL PHOTOGRAPHY OF SURFACE MOTION

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January 1962

ABSTRACT

On the Gnome event, Edgerton, Germeshausen and Grier, Inc., performed the technical photography of surface motion, Project 1.3, for the Defense Atomic Support Agency. The project entailed photographic recording of earth motion in and around the Surface Zero area, processing of the resultant film records, production of requested prints, analysis of the photographic records, and submission of the resultant data.

The earth motion was recorded photographically from a distance by cameras equipped with long-focal length lenses and "close-in" by use of special "inertia-weight" instrumentation. In the long-range photography, the displacement of target arrays anchored in and around Surface Zero was photographed by cameras which were placed far enough distant to have finished recording the maximum earth motion before arrival of the shock wave. With the "inertia-weight" instrumentation, close-in, shock-mounted cameras recorded the displacement of marked targets in relation to a spring-suspended "inertia-weight" which remained essentially motionless during the time of interest.

All but one of the fifteen cameras used to document the earth motion operated well on the Gnome event and good records were obtained. Measured maximum displacements were as follows:

69.6 + in.	at 15.24 meters	*
72.7 + in.	at 32.32 meters	*
19.65 in.	at 137.20 meters	
7.58 in.	at 274.31 meters	

*Maximum earth motion is greater than measured; observed records are as yet incomplete.

TABLE OF CONTENTS

	Page
ABSTRACT	ii
INTRODUCTION	1
Background	1
Theory	2
INSTRUMENTATION	3
Long-Range Camera Station	3
Long-Range Target Array	5
Long-Range Operation	8
Close-In Camera Station	8
Inertia-Weight Targets	11
Close-In Operation	14
RESULTS	14
System Operation.	14
Analysis	15
CONCLUSIONS AND RECOMMENDATIONS	24
APPENDIX A INSTRUMENTATION RECORDS	25
Photo Plans	26
Photo Loading Charts	30
Elevation Chart	34
APPENDIX B ANALYSIS RECORDS	36
Film Reading Code	37
Film Reading Sheets	38
Disposition of Film Records	64
TABLES	
1 Long-range camera details	5
2 Close-in camera details	11
3 Analysis results	16

TABLE OF CONTENTS (Cont)

	Page
FIGURES	
1 Long-range camera station	4
2 Long-range target array	6
3 Long-range target	7
4 Close-in camera station	9
5 Close-in target orientation	10
6 Inertia-weight target	12
7 Inertia-weight target face	13
8 Vertical displacement vs time	17
9 Vertical displacement vs time	18
10 Vertical displacement vs time	19
11 Vertical displacement vs time	20
12 Vertical displacement vs time	21
13 Vertical displacement vs time	22
14 Vertical displacement vs time	23
DISTRIBUTION.	65

TECHNICAL PHOTOGRAPHY OF SURFACE MOTION

INTRODUCTION

Project Gnome involved detonation of a nominal 5-kt nuclear device 366 meters underground at the end of a 340-meter long, hooked and self-sealing tunnel in the Salado formation in the Delaware Basin, Eddy County, New Mexico. The shot occurred on 10 December 1961. On this event, Edgerton, Germeshausen & Grier, Inc. (EG&G) performed surface motion photography, Project 1.3, under the sponsorship of the Defense Atomic Support Agency (DASA). Using a single long-range and three short-range photo stations, EG&G recorded earth motion in the Surface Zero area.

The EG&G program for Project 1.3 involved four objectives: (1) photographic recording of the earth motion (displacement) and the subsequent calculation of the velocity and acceleration of the motion in and around the Surface Zero area; (2) processing of the motion picture records; (3) production of sufficient prints to satisfy DASA and AEC requirements; and, (4) analysis of the photographic records and submission of the resultant data.

Background. EG&G has previously performed surface-motion photography for the Lawrence Radiation Laboratory on AEC test series detonations, for the AEC on Program Plowshare, and for DASA on the Nougat series. This work is documented in detail in the following reports:

- (1) "Photographic Analysis of Earth Motion - Shot Rainier," EG&G Staff, Project 26.4, WT-1532, July 1958.
- (2) "Operation Hardtack, Earth Motion Studies," EG&G Staff, ITR-1706, May 1959.
- (3) "Final Report - Photographic Earth Motion Study, Scooter Event," S. Feigenbaum and P. Wagkamp, EG&G Report No. L-510, 15 February 1961.

- (4) "Project Rowboat - Final Report," L. Donovan, EG&G Report No. L-547, 1 August 1961, and
- (5) "Preliminary Report, Antler Event, Project 1.3, Surface Motion Photography," B. Carder, D. Barnes, and L. Donovan, Report VUP-2200, 31 October 1961.

In addition to surface motion studies which involve photographing an array of fixed targets in the Surface Zero area with distant cameras equipped with long-focal-length lenses, EG&G has pioneered in the design and assembly of portable "inertia-weight" photo stations for close-in measurement of surface motion. The design and application of these close-in "inertia-weight" stations is set forth in the following proposals submitted to DASA:

- (1) "Technical Proposal - Surface Motion Photography for Project Orchid," EG&G Report No. B-2150, 19 October 1960.
- (2) "Technical Proposal - Surface Motion Photography for Project Hard Hat," EG&G Report No. B-2260, 30 June 1961, and
- (3) "Technical Proposal - Surface Motion Measurement for Project Gnome," EG&G Report No. B-2278, 16 August 1961.

Theory. Good surface-motion measurements can be made by long-range photography and close-in photography. The two methods, which are complementary, provide good resolution measurement of ground excursions ranging from a few inches to several feet and occurring over a time interval of several minutes.

In the long-range photography, cameras equipped with long-focal-length lenses are positioned at a distance to record the displacement of an array of fixed targets positioned radially about Surface Zero. Frame rates and lenses for the battery of cameras are selected to

cover a wide range of actions and the camera station is placed at a distance which will allow recording of the maximum surface motion before arrival of the shock wave. In general, cameras with long focal-length lenses and rapid frame rates are used for precise recording of earth motion. Shorter focal-length lenses and slower frame rates are employed on cameras used for documenting gross motion.

In the close-in photography, surface-motion measurements are made with an "inertia-weight" target and close-in photo station which represent a new concept in surface-motion photography. With this method, a shock-mounted photo station is positioned close-in to record the displacement of an "inertia-weight" in reference to a graduated target which is rigidly anchored in the Surface Zero area. The inertia-weight (a specific weight suspended on the end of a helical spring) is designed to remain essentially motionless through the time of interest (approximately 1.6 sec) and it serves as a fixed reference for any target motion induced by the surface motion. Close-in shock-mounted photo stations record the target displacement in relation to the fixed inertia-weight position and provide high-resolution measurements of surface motion.

INSTRUMENTATION

Long-Range Camera Station. The long-range camera station (Fig. 1) was housed in a transportainer and mounted on a concrete pad 1,274.86 meters from Surface Zero (SZ) on a bearing of $S 28^{\circ} 23' 11'' E$. The entire station was elevated to provide an unobstructed view of the target array. A gasoline-powered generator located next to the transportainer was used for battery charging and for power for the radio link to the EG&G net.

Station instrumentation included six cameras mounted on two drill-press stands, batteries for operating power, control equipment, and a radio tone receiver. The station camera complement and pertinent operating details are given in the following table. Full documentation of



Fig. 1. Long-range camera station.

camera types, markers, running times, films, and exposures is given in the Photo Plans and Photo Loading Charts in Appendix A of this report. The location and elevation of all camera stations and targets are also given in Appendix A.

TABLE 1. LONG-RANGE CAMERA DETAILS

Camera Type	Nominal Focal Length Lens (mm)	Nominal Frame Speed (frames/sec)	Timing Marks (cps)	Operating Time
35-mm Mitchell	305	50	100	-5 sec to +2 min
35-mm Mitchell	152	50	100	-5 sec to +2 min
35-mm Mitchell	75	50	100	-5 sec to +2 min
35-mm Mitchell	35	50	100	-5 sec to +2 min
35-mm Mitchell	305	35	25	-5 sec to +3 min
70-mm Maurer	150	2-1/2	None	-5 sec to +1-1/2 min

Long-Range Target Array. The long-range target array consisted of fifteen individual targets positioned radially from Surface Zero (Fig. 2). Seven targets were placed at distances of 15.24, 30.39, 60.98, 91.46, 137.20, 182.93 and 274.39 meters on a bearing of S20° 00' E. Seven other targets were similarly spaced on a bearing of N70° 00' E. The fifteenth target was placed approximately one meter away from Surface Zero and in-line with the seven targets on both bearings. The 15.24 and 30.49 meter targets on the N70° 00' E bearing were equipped with flash bulbs to facilitate recognition of the SZ target in subsequent analysis.

The individual targets (Fig. 3) were 3-ft square wooden frames covered with white nylon parachute material. The targets were bolted approximately 8 ft above ground level to iron posts which were imbedded in concrete blocks buried in the ground. A 1-ft aluminum cross (painted black) was attached to each target at a distance of 3-1/2 in. from the

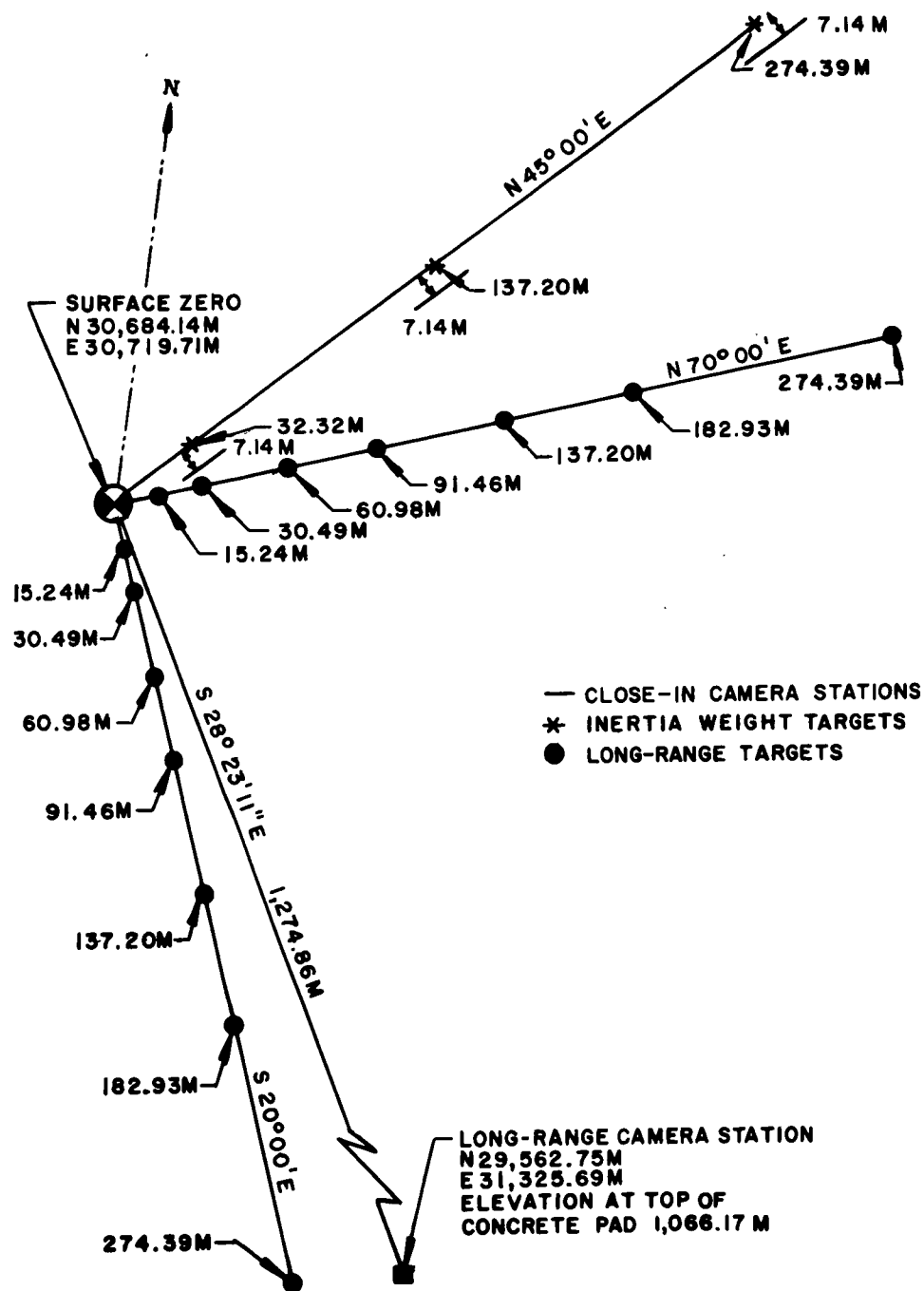


Fig. 2. Long-range target array.

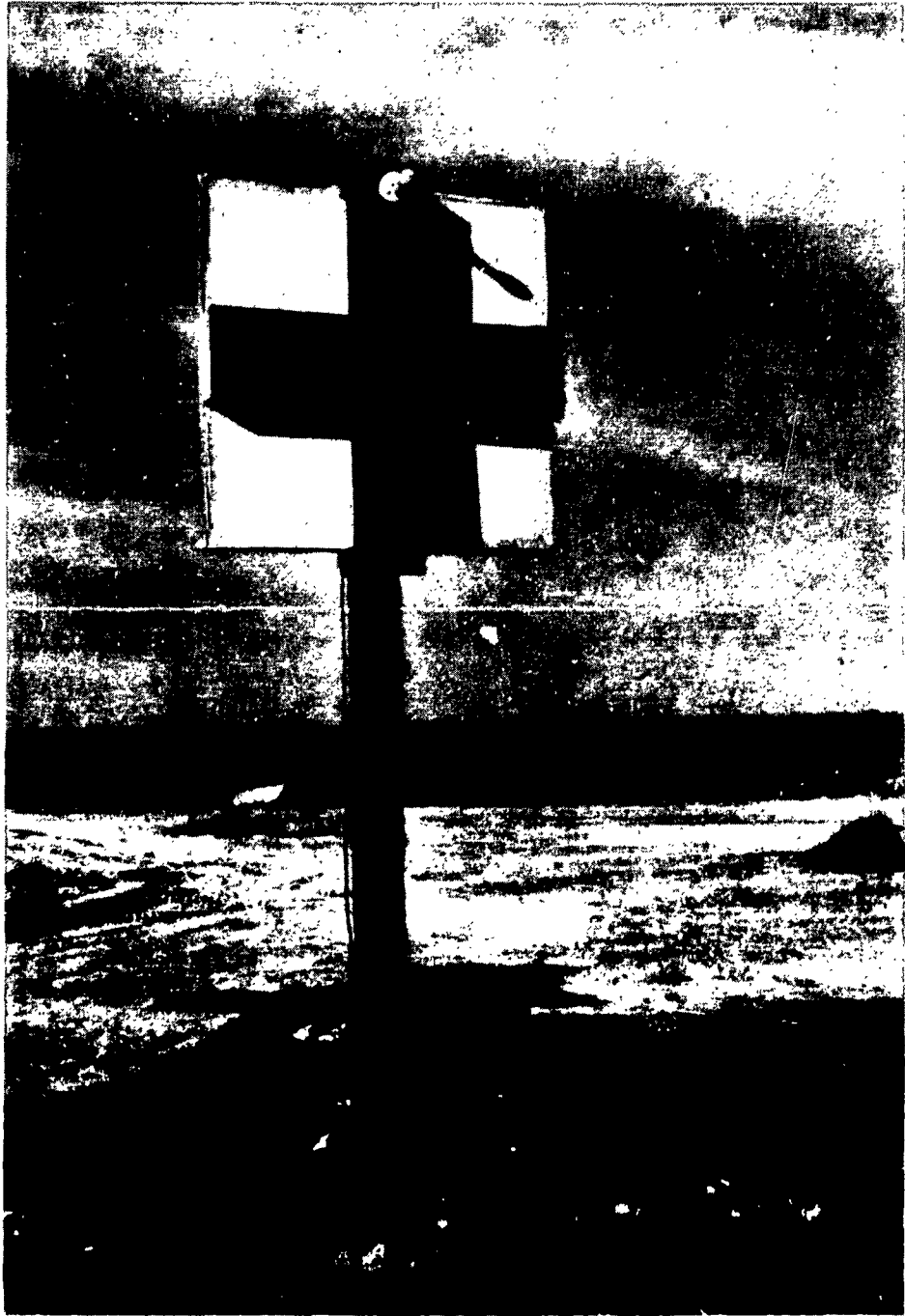


Fig. 3. Long-range target.

target face to facilitate photographic acquisition and later surface motion measurements.

Long-Range Operation. During the live run the long-range station was unmanned and operation was controlled remotely by signals transmitted from the EG&G Control Point and received on the transportainer receiver (Radio Tone Receiver, Type N-3620D1).

On receipt of the 5-min signal from the CP, a burnwire holding a canvas curtain down across the front of the transportainer was triggered and the marker filaments in the film marker units (Marker Unit, Type TD-1) were turned on. Receipt of the -5 sec signal turned on plate voltage in the film marker units and activated the photo control units, the cam timers, and all cameras. A zero fiducial signal was used to trigger the flashbulbs on the two long-range targets. This flash provided a zero reference for the marker units in all cameras.

Close-In Camera Station. The close-in camera stations (Fig. 4) consisted of shock-mounted camera platforms mounted 48 in. above ground in pipe-like structures which were firmly anchored in the ground. Three close-in stations were installed on a bearing $N45^{\circ}00'E$ at distances of 32.32, 137.20, and 274.39 meters (Fig. 5). Each close-in station was located 7.14 meters away from its respective target and each was protected by a canvas tent fitted over the tubular structure. Stabilizing rods were attached to each camera platform to prevent yawing, and a pneumatic mechanism was included to damp any damaging camera platform oscillations that might occur after the arrival of the shock wave.

The camera instrumentation for each of the three stations and pertinent operating details are given in the following table. Complete documentation of the camera operating details for each of these stations will be found in Appendix A of this report.

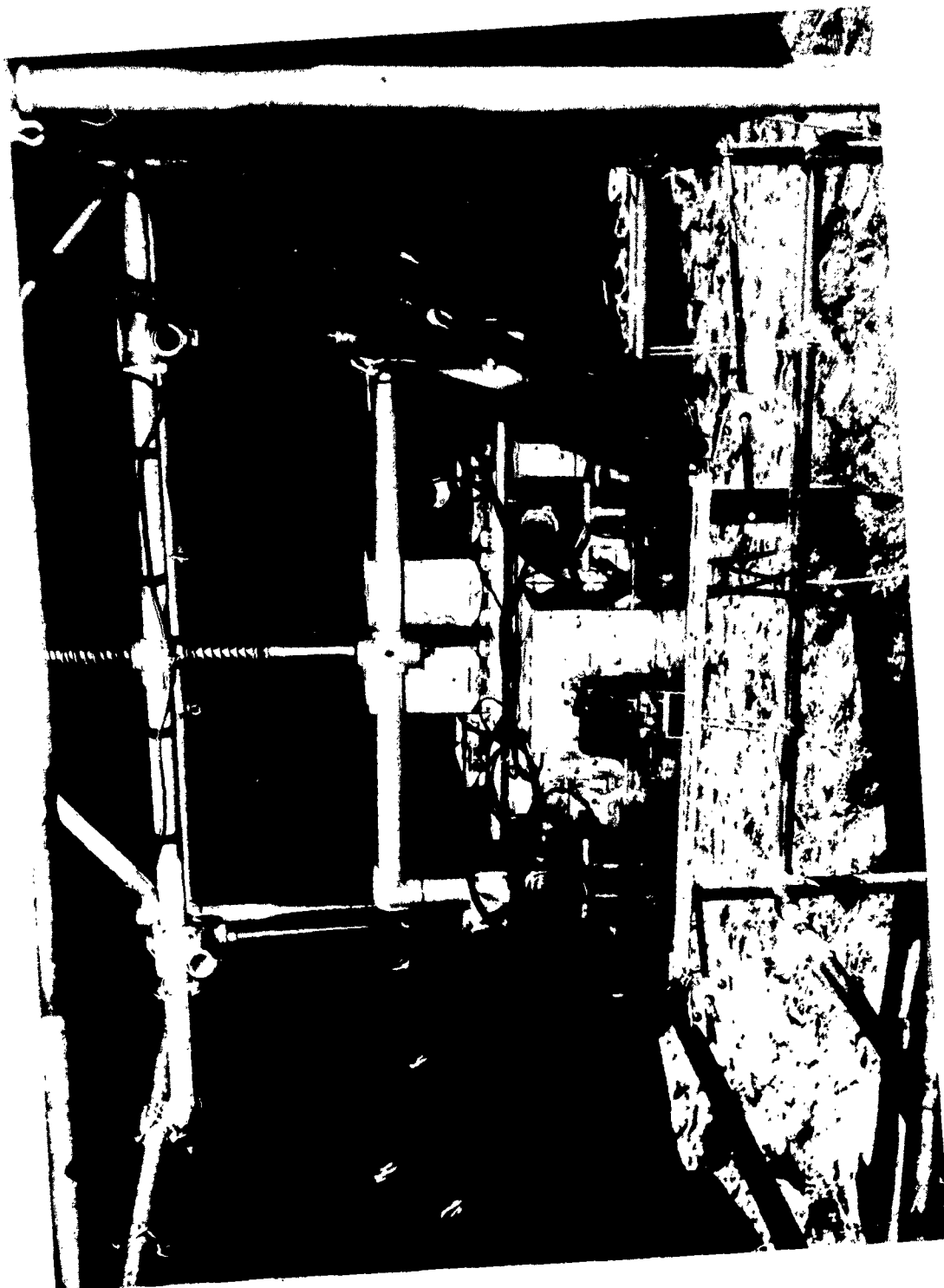


Fig. 4. Close-in camera station.

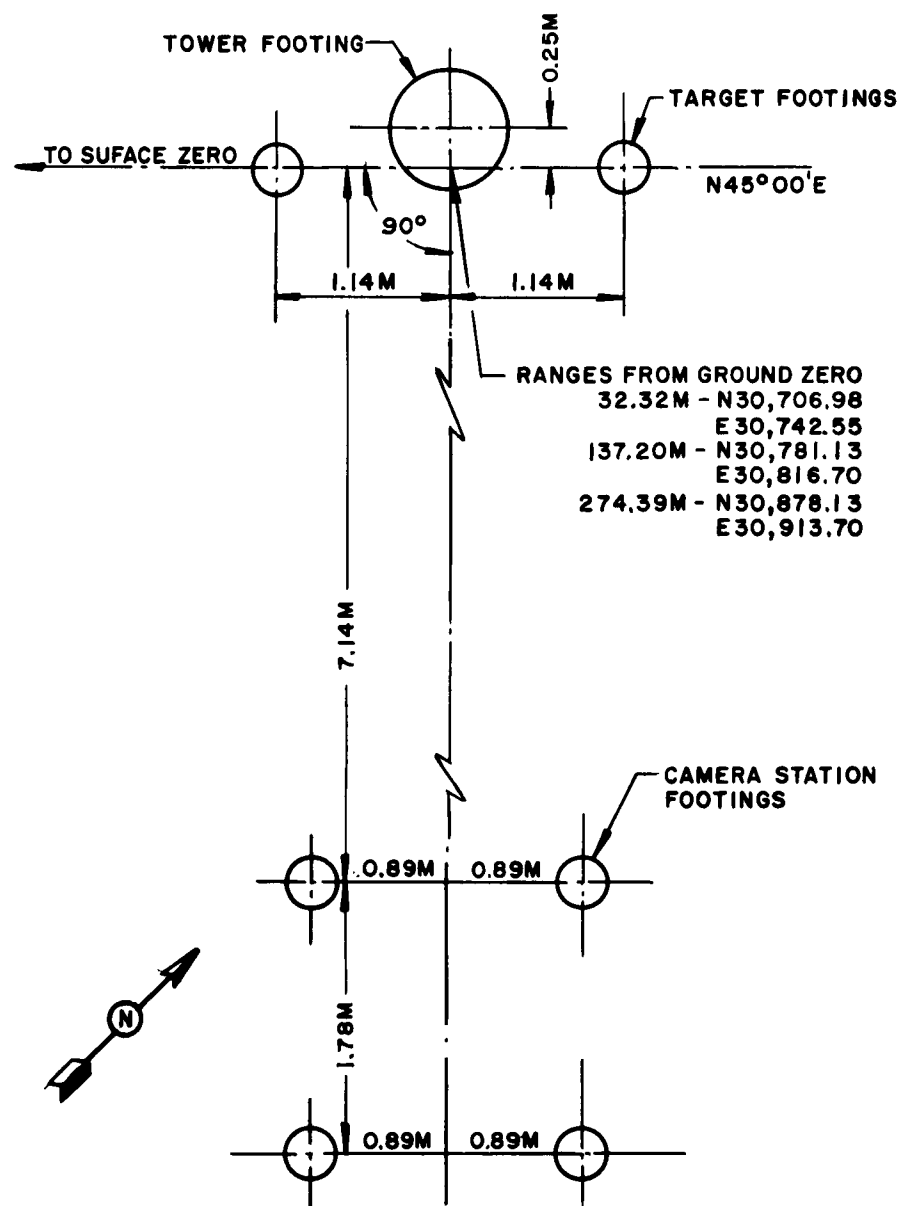


Fig. 5. Close-in target orientation.

TABLE 2 CLOSE-IN CAMERA DETAILS

Camera Type	Nominal Focal Length Lens (mm)	Nominal Frame Speed (frames/sec)	Timing Marks (cps)	Operating Time
16-mm Fairchild	13	500	200	-2 sec to +6 sec
16-mm Fairchild	50	500	200	-2 sec to +6 sec
16-mm GSAP	9.5	64	None	-2 sec to +30 sec

In addition to the camera complement, each station contained control equipment (EG&G Cam Timer, Type TD-52) and marker units (EG&G Marker Generator, Type SG-15). Control of each camera station was accomplished by the cam timers which were connected to the CP by hardwire.

Inertia-Weight Targets - The inertia-weight targets (Fig. 6) consisted of three separate parts: an 8-ft x 12-ft target face, a 70-ft crank-up telescoping tower, and a helical spring and inertia weight. The target faces and the telescoping towers were all firmly positioned in the ground facing the individual close-in camera stations. The target face footings were anchored at a distance of 7.14 meters from the footings of the respective camera station and each tower was tied firmly to the ground with 12 guy wires (4 sets of 3 each) anchored to the ground in a triangular pattern. The location of the inertia weight targets is given in Fig. 2.

The target faces (Fig. 7) which were made of three 8-ft x 4-ft sections of 1/2-in. plywood, were bolted to 2-in. diameter pipe which was sunk into the ground to a depth that would assure maximum stability. All target faces were painted black and vertical and horizontal target markings were made on each with wide strips of white Scotch-Lite tape. Vertical target markings were made across the center of each target face and at a distance of 2 ft on either side of the center line. Horizontal

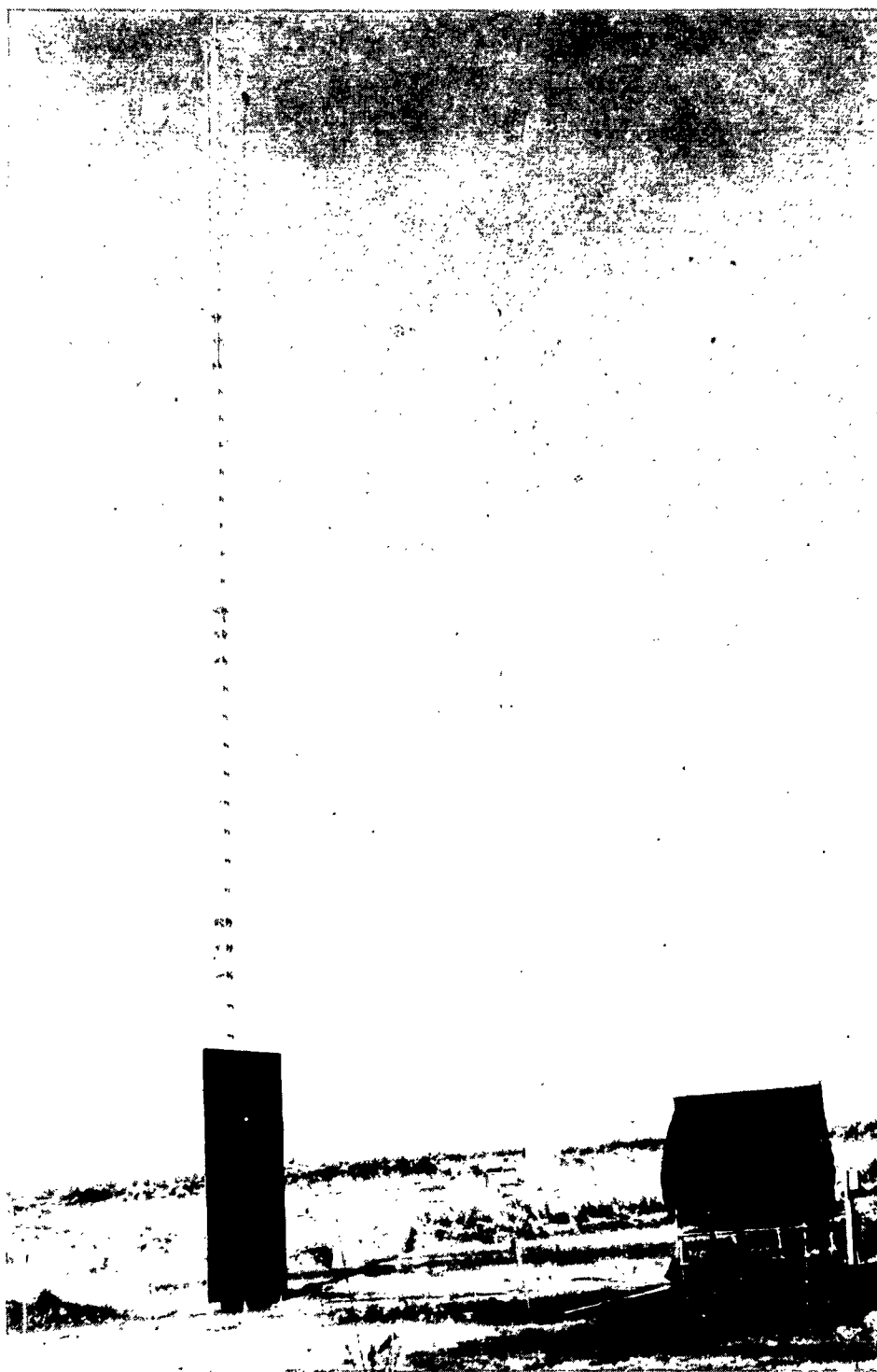


Fig. 6. Inertia-weight target.

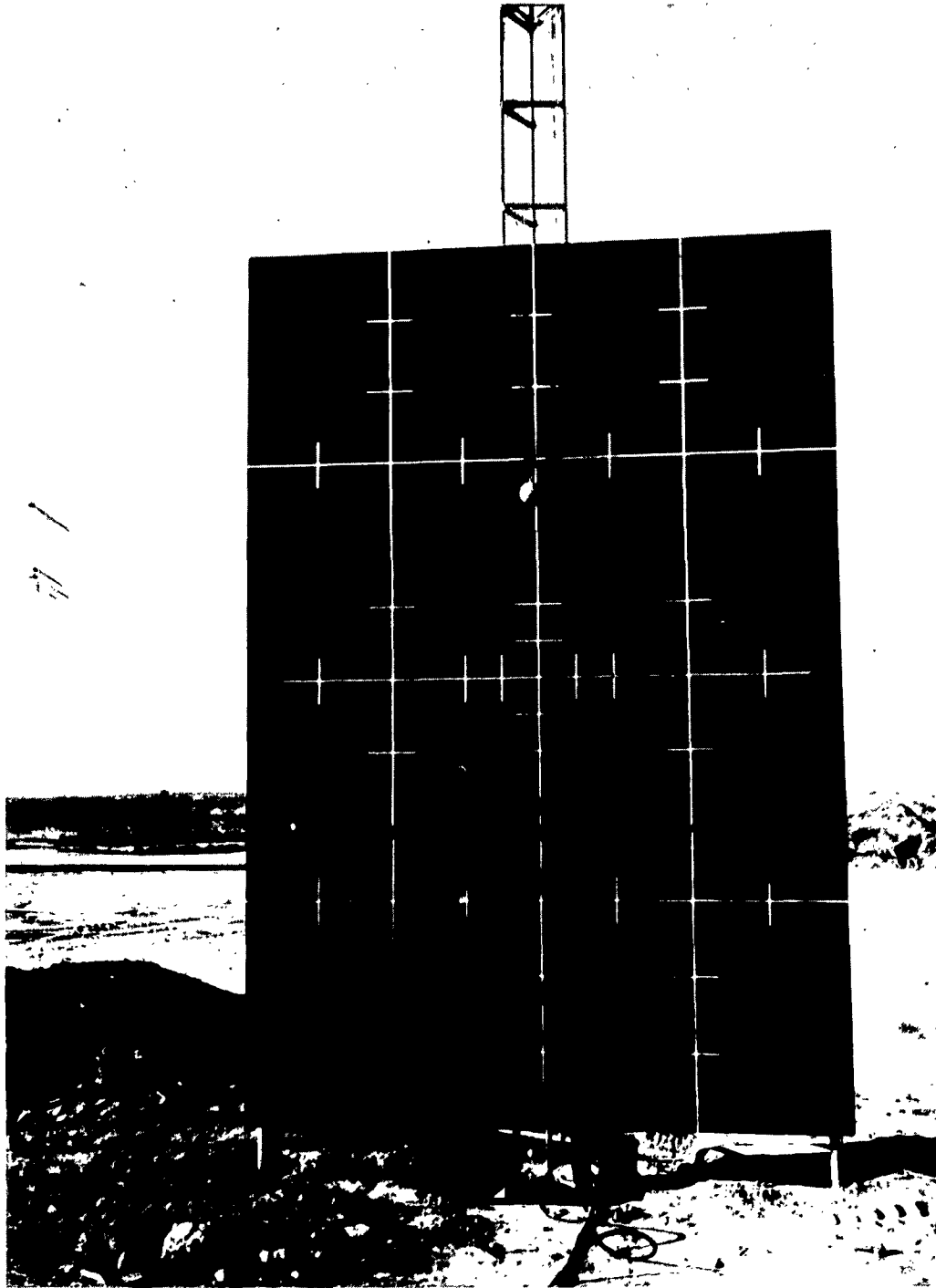


Fig. 7. Inertia-weight target face.

target markings were applied across the center of each target and at a distance of 3 ft on either side of the center horizontal stripe. Short cross-markings were applied to each vertical stripe at 1-ft intervals between the top and bottom horizontal stripes and 1-ft on either side of the center horizontal stripe. The horizontal stripes were cross-marked at 1-ft intervals between each vertical stripe, and an additional cross-mark was applied 6-in. on either side of the center horizontal and vertical stripes. A single flash bulb, mounted above the center of each target, when flashed would be used as a zero-time reference in the final films.

The helical spring and inertia weight for each target assembly were suspended from the telescoping towers (see Fig. 6). The spring and weight combination at each target was selected to insure that the reference would remain stationary through the time of interest (approximately 1.6 sec). All spring and weight combinations were held in their natural free positions until -1 sec by a burnwire to insure that they would be essentially motionless at zero time.

Close-In Operation. The close-in stations were unmanned during the live runs and operation was controlled by hardwire signals from the Control Point. The -5 sec signal from the CP activated the cam timers at each station and the cam timers programmed camera turn-on, marker generator operation, burnwire release (-1 sec). A separate signal controlled flash bulb ignition (Z time).

RESULTS

System Operation. Of the fifteen cameras employed (see Tables 1 and 2) on this event, fourteen operated through the time of interest and yielded records. (For some as yet inexplicable reason,

one 16-mm Fairchild camera at the 274.39m close-in station failed to operate.) The film records from all cameras have been processed and the requisite number of prints have been forwarded to DASA and to the AEC to fulfill their requirements. All of the original earth-motion films have been forwarded to EG&G, Boston, and seven of the films have been read.

Initial reports of camera station operation show that the timing markers in the long-distance stations functioned properly but that the close-in station timing markers did not. The 274.39m close-in station timing markers were "out" at D-45 min but personnel were not allowed to remain in the area to effect repair. Full details of camera station operation will be included in the final report.

Based on a preliminary scan and evaluation, six of the films from the 9 close-in inertia weight station cameras (all 3 films from the 32.32m station, the GSAP record from the 137.20m station, and the 2 films from the 274.39m station) and one film from the long-range station were chosen for preliminary analysis. All eight films from the close-in stations recorded zero time as evidenced by recording of the zero-reference flash on each target. However, the inertia weight on the 137.20m target left the field of view of two of the cameras before shock arrival at the target so the films from these two were not read.

Analysis. For the 137.20m and 274.39m station films, measurements of the position of the inertia weights with respect to their target markings were taken at times from approximately zero minus 400 msec to zero plus 1.9 sec and plots were made of displacement versus time based on the nominal film speed of the governor-controlled GSAP in both close-in stations. (The nominal film speed was used since the timing markers did not operate.) The plots of displacement versus time for the 32.32m station cameras were made based on a corrected film speed as determined by the one long-range film read. Since timing marks and the zero-reference flash from the long-range target

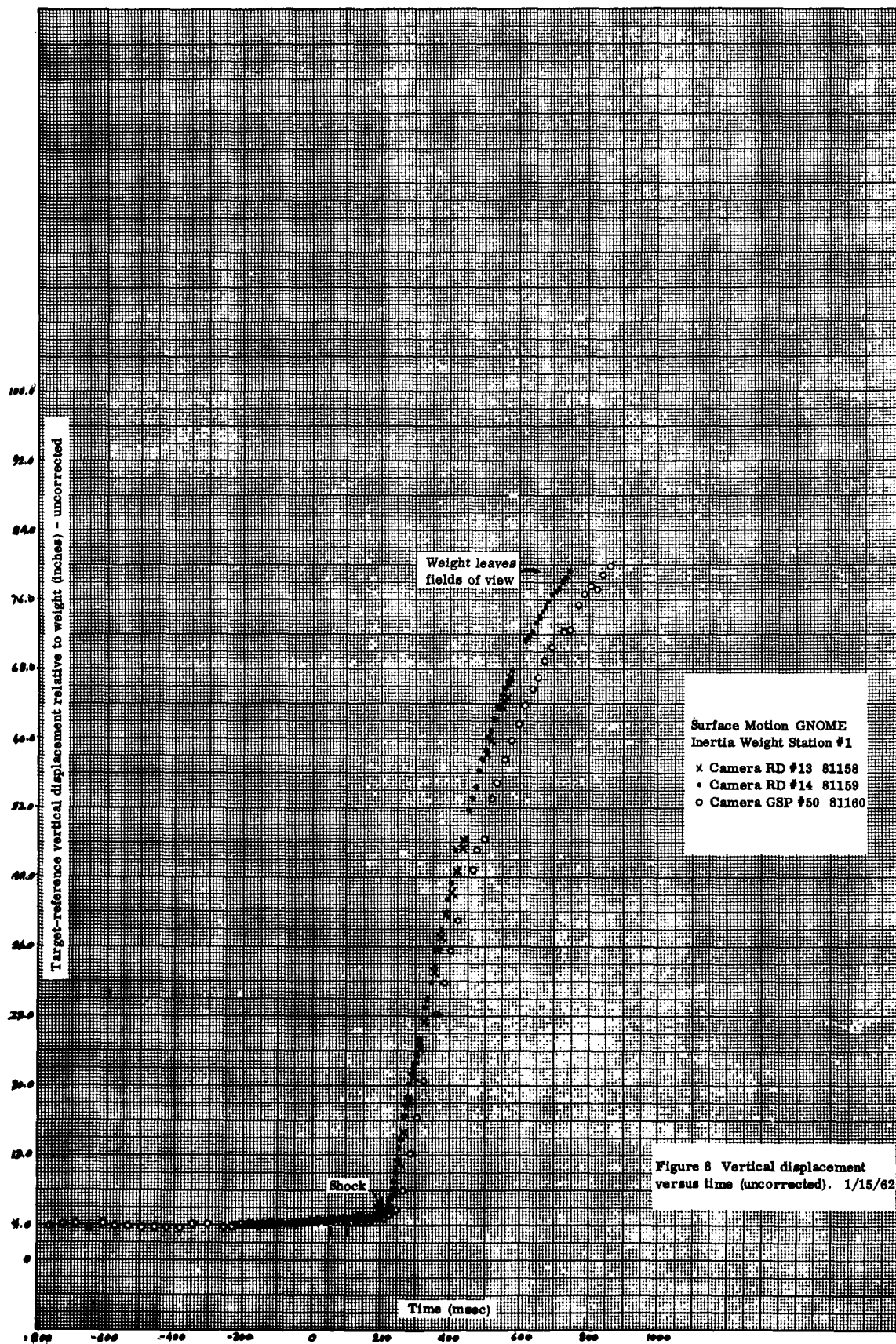
at 30.49 m and the inertia weight target at 32.32 m were both recorded on the long-range film, the 32.32 m close-in records were plotted on the more accurate time base. The plots of displacement versus time for the inertia weight targets are given in Figs. 8 through 10. The "corrected" (any wind displacements subtracted out) plots of displacement are given in Figs. 11 through 14.

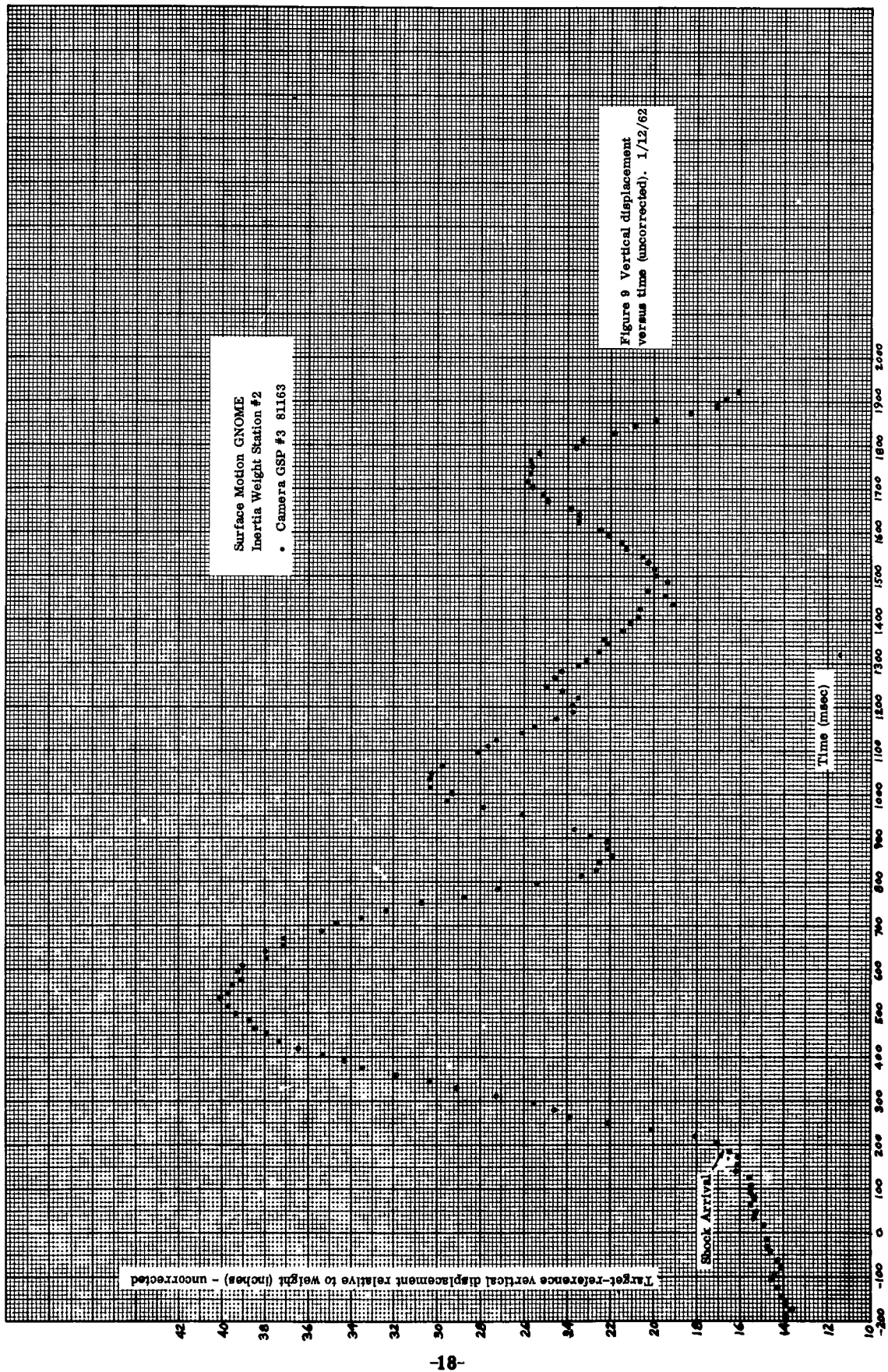
Since the inertia weight at the 32.32 m target left the field of view of all three cameras before maximum displacement was recorded, the record from the 305 mm lens equipped Mitchell in the long range station was read to see if it would yield the maximum displacement. Although the 32.32 m close-in target motion was recorded, the record became erratic due to shock wave arrival at the transportainer and post shock wave data is suspect. The displacement versus time for the long range camera is given in Fig. 14.

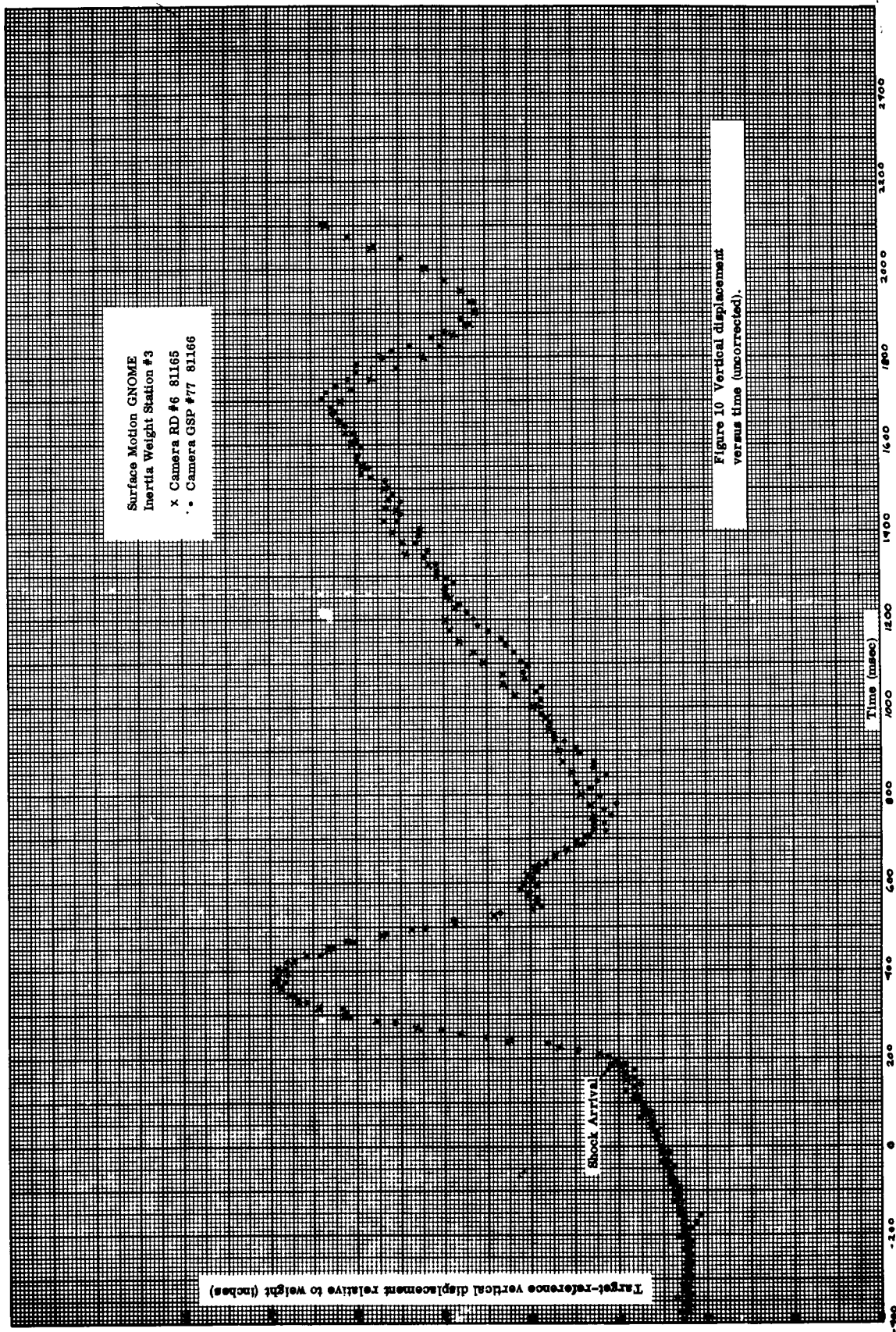
TABLE 3. ANALYSIS RESULTS

Camera Station	Target Distance (from Surface Zero)	Shock Arrival	Max. Displacement	Time of Max. Displacement
32.32mIW	32.32 m	211 msec ^a	72.7 in. +	864 msec +
137.20mIW	137.20 m	200 msec	19.65 in.	530 msec
274.31mIW	274.31 m	200 msec	7.58 in.	375 msec
1, 274.86mLR	15.24 m	211 msec	69.6 in.	770 msec
	30.49 m	211 msec	68.4 in.	770 msec

^aThis shock arrival time would appear to be out of order relative to the other arrival times. This is due to the different methods of calculating the camera speeds previously mentioned.







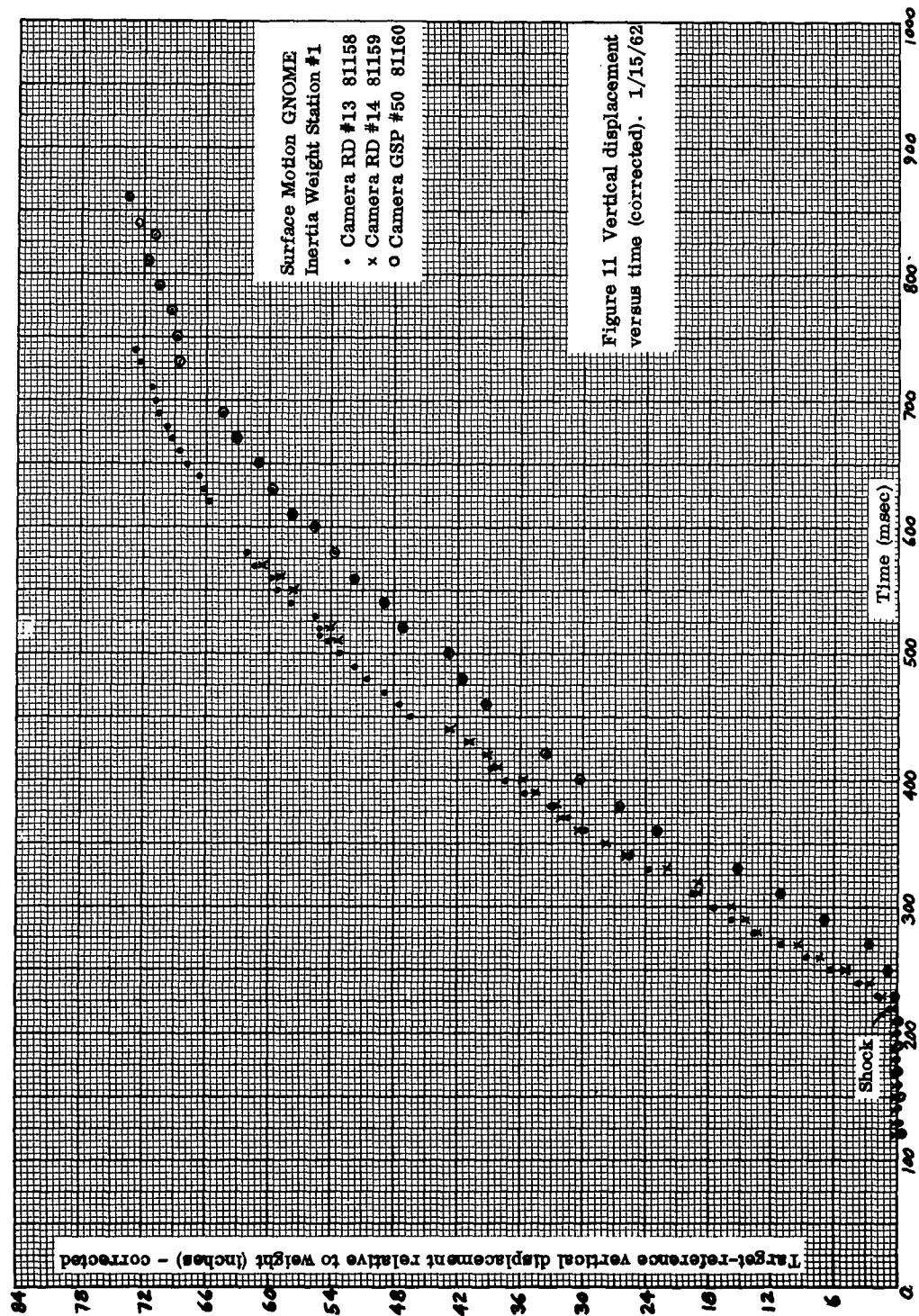
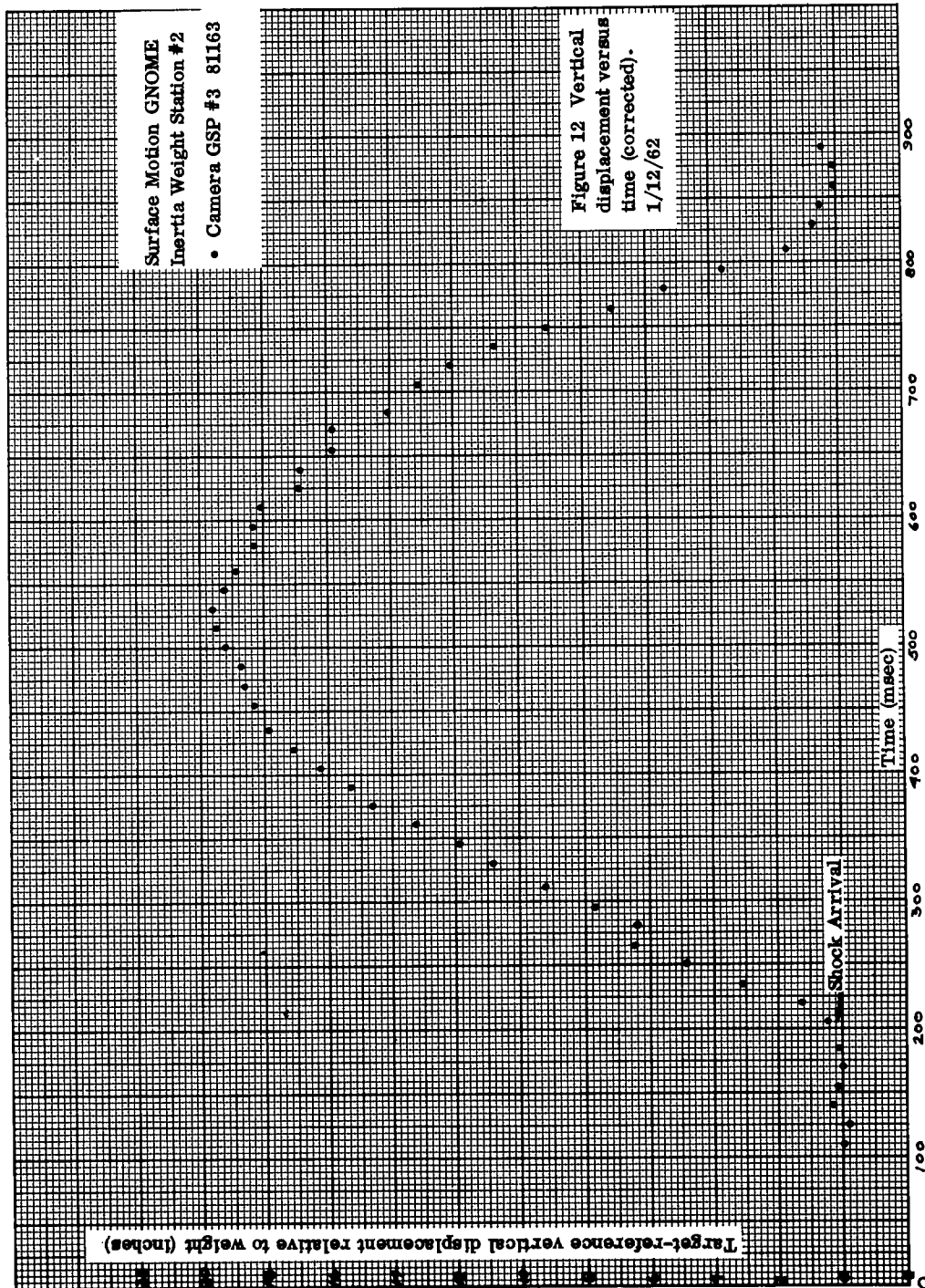
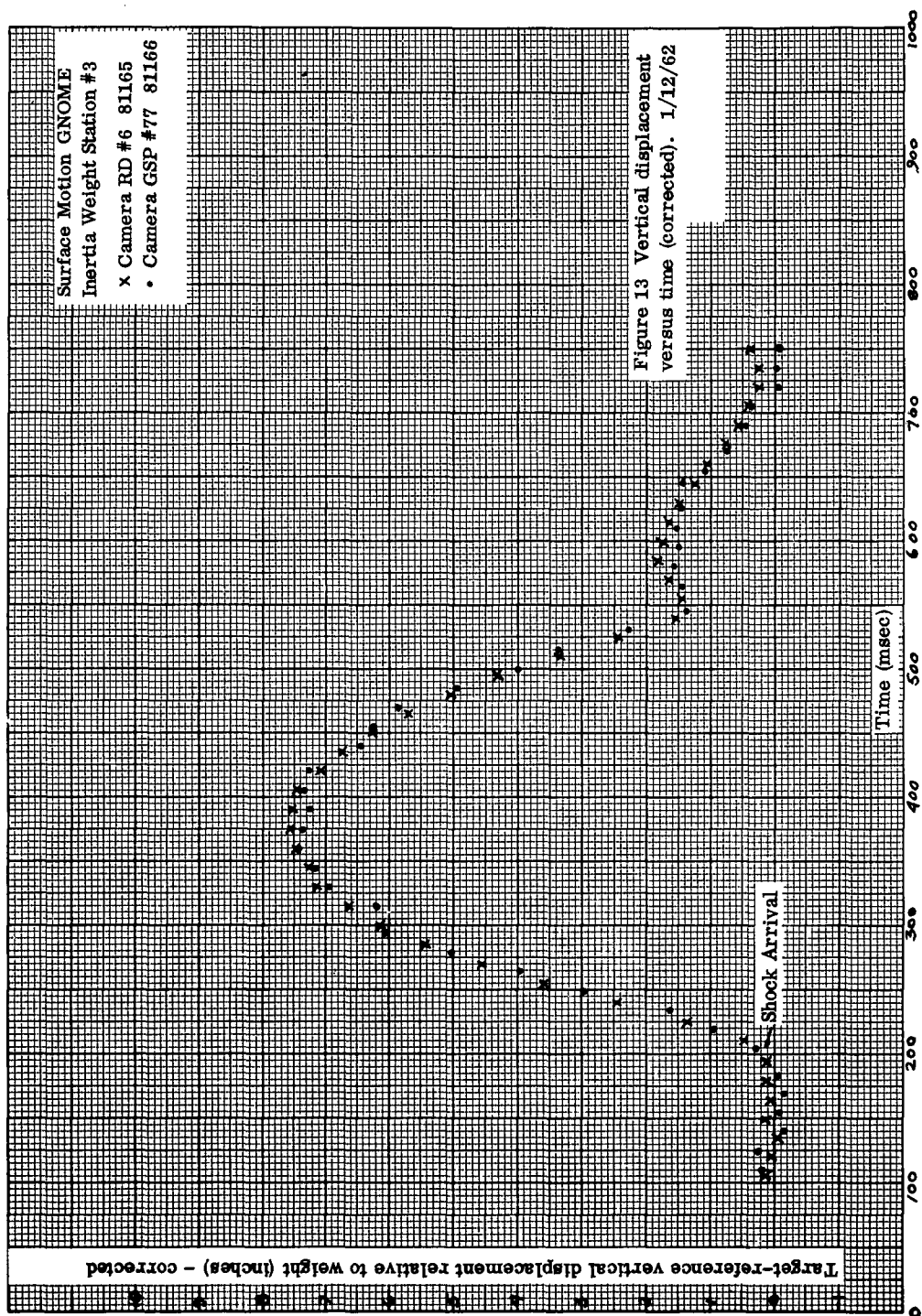
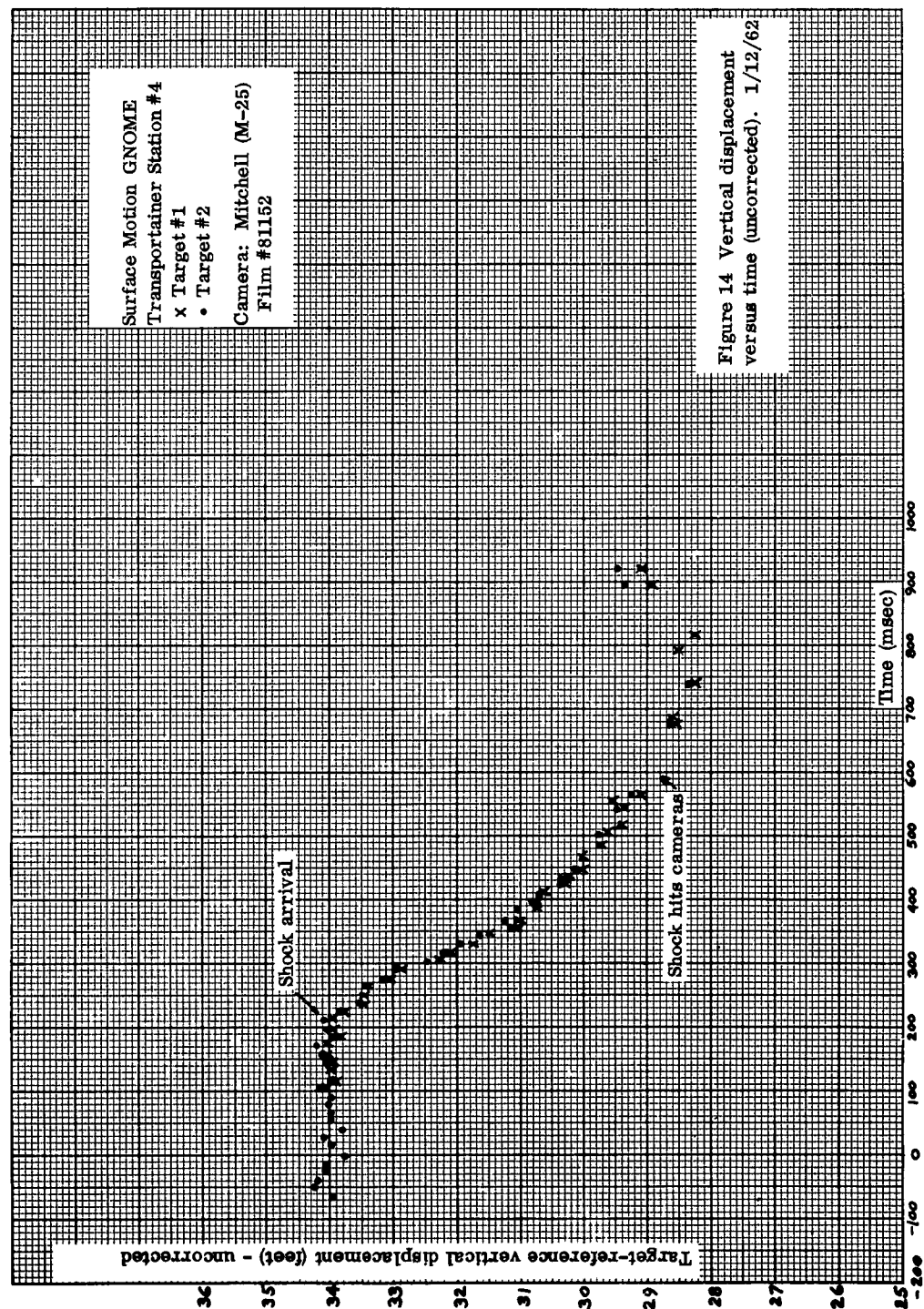


Figure 11 Vertical displacement
versus time (corrected). 1/15/62







CONCLUSIONS AND RECOMMENDATIONS

Preliminary analysis of the film records from the inertia-weight stations and from the long-range camera station substantiates the validity of the inertia-weight surface motion photography method, particularly in regard to high-resolution measurements. In addition, the correlation of data from the long-range and close-in stations proves the efficacy of the dual technique approach. Although the inertia-weight method appears to be superior to the long-range system in determining surface motion, it would appear prudent to retain both methods until such time as sufficient data exists to predict the amplitude and duration of surface motion that would result from any scheduled event. Furthermore, the back-up provided by the dual-method technique of surface-motion photography would insure that records would be obtained in any given case and provide correlation data.

APPENDIX A

INSTRUMENTATION RECORDS

STATION NO. 1

STATION TYPE IW

DISTANCE GZ 106 FT

DISTANCE OBJECT _____

STATION _____

N _____

E _____

Z _____

G Z 106-397

100760.64

3397.20

PHOTO PLAN

DIFF. _____

TILT _____

GZ STA. _____

DATE _____

POSTED _____

EVENT C-NOME

OBJ 806-345°00'W

[illegible]

REMARKS:

STATION NO. 3 STATION TYPE IW DISTANCE GZ 900 FT DISTANCE OBJECT _____

PHOTO PLAN

STATION N E Z GZ 10043.87 100760.64 3397.20 DIFF. _____ GZ _____ OBJ 30-54500W TILT _____ DATE _____ POSTED _____ EVENT FLAME GZ STA. _____

[illegible]

REMARKS:

EVENT NAME
GZ STA. _____
DATE _____
POSTED _____
w _____

REMARKS
REVISION #1 NOV 29 1961 REVISION #2 12-4-61

PHOTO LOADING CHART

STATION Two 900' EVENT LI-NOME DATE NOVEMBER 15

STATION Two 900' EVENT LI-NOME DATE NOVEMBER 15

[illegible][illegible]

REMARKS

ELEVATION TABLE

Stations or Target	Range (m)	Elevation, Top of Concrete Footing (m)
Array Bearing S 20 ⁰ 00' E		
Ground Motion Target 15.24		1035.55
Ground Motion Target 30.49		1035.80
Ground Motion Target 60.98		1036.06
Ground Motion Target 91.46		1036.36
Ground Motion Target 137.20		1035.99
Ground Motion Target 182.93		1035.71
Ground Motion Target 274.39		1036.70
Array Bearing N 70 ⁰ 00' E		
Ground Motion Target 15.24		1035.39
Ground Motion Target 30.49		1035.28
Ground Motion Target 60.98		1035.09
Ground Motion Target 91.46		1035.34
Ground Motion Target 137.20		1035.46
Ground Motion Target 182.93		1035.01
Ground Motion Target 274.39		1037.54
Single Target Bearing N 87 ⁰ 00' E		
Ground Motion Target 1.16		1035.73 [*]
Long-Range Camera Station 1274.86 (Bearing S 28 ⁰ 23' 11")		1066.17 [*]

* Elevation at top of concrete pad.

ELEVATION TABLE (CONT)

Stations or Target	Range (m)	Elevation, Top of Concrete Footing (m)
Inertia-Weight Stations Bearing N 45 ⁰ 00' E		
Inertia-Weight Tower 32.32		1035.14
Inertia-Weight Target 32.32		1035.15
Inertia-Weight Cameras 32.32		1035.15
Inertia-Weight Tower 137.20		1034.15
Inertia-Weight Target 137.20		1034.19
Inertia-Weight Cameras 137.20		1034.14
Inertia-Weight Tower 274.39		1037.91
Inertia-Weight Target 274.39		1038.00
Inertia-Weight Cameras 274.39		1037.96

APPENDIX B

ANALYSIS RECORDS

Film Reading Code

The film reading sheets on the following pages have been prepared as follows:

- COLUMN 1: Time (in msec.) with reference to zero time
- COLUMN 2: Frame number of the film read
- COLUMN 3: Position of the reference (in film inches)
- COLUMN 4: Position of the weight (in film inches)
- COLUMN 5: Target-reference vertical displacement relative to weight, ie. column 3 minus column 4 (in film inches)
- COLUMN 6: Measured film distance (in film inches) from the reference used to another target marker of known actual distance
- COLUMN 7: Target-reference vertical displacement relative to weight (in actual inches) calculated by direct proportion.
- COLUMN 8: When necessary, this column is used to refer all displacements to one particular target reference (actual inches).

GNOME-CAMERA RD 13 #8115B					NAME		DATE		JOB NO.
1	2	3	4	5	6	7			
(msec.)	FRAME	(film in.)	(film in.)	(film in.)	(film in.)	(act. in.)			
-216.99	-75	1.0064	.9924	.1040	.0776	4.08			
-211.20	-73	1.0399	.9355	.1044	.0778	4.08			
-212.52	-70	1.0693	.9650	.1043	.0775	4.15			
-196.74	-68	1.0362	.9320	.1042	.0778	4.07			
-188.06	-65	1.0393	.9350	.1043	.0779	4.07			
-182.27	-63	1.0712	.9668	.1044	.0779	4.08			
-173.59	-60	1.0671	.9626	.1045	.0780	4.08			
-167.80	-58	1.0530	.9486	.1044	.0777	4.13			
-159.12	-55	1.0692	.9644	.1048	.0780	4.13			
-153.34	-53	1.0521	.9479	.1042	.0778	4.07			
-144.66	-50	1.0644	.9593	.1051	.0779	4.19			
-138.87	-48	1.0545	.9495	.1050	.0776	4.24			
-130.19	-45	1.0247	.9202	.1045	.0779	4.09			
-124.41	-43	1.0654	.9608	.1046	.0778	4.13			
-115.73	-40	1.0596	.9540	.1056	.0777	4.31			
-109.94	-38	1.0545	.9490	.1055	.0778	4.27			
-101.26	-35	1.0940	.9887	.1053	.0778	4.24			
-95.47	-33	1.0554	.9501	.1053	.0777	4.26			
-86.80	-30	1.0561	.9506	.1055	.0779	4.25			
-81.01	-28	1.0570	.9511	.1059	.0779	4.31			
-72.33	-25	1.0321	.9267	.1054	.0778	4.26			
-66.54	-23	1.0734	.9675	.1059	.0779	4.31			
-57.86	-20	1.0712	.9650	.1062	.0778	4.38			
-52.08	-18	1.0454	.9397	.1057	.0778	4.31			
-43.40	-15	1.0329	.9264	.1055	.0779	4.25			
-37.61	-13	1.0532	.9470	.1062	.0777	4.40			
-28.93	-10	1.0680	.9615	.1065	.0777	4.45			
-23.15	-8	1.0290	.9225	.1065	.0779	4.40			
-14.47	-5	1.1085	1.0016	.1069	.0777	4.51			
-8.68	-3	1.0435	.9369	.1066	.0774	4.52			
0	0	1.1172	1.0095	.1077	.0779	4.60			
8.68	3	1.0938	.9864	.1074	.0778	4.56			
14.47	5	1.0995	.9917	.1078	.0777	4.64			
23.15	8	1.1292	1.0221	.1071	.0779	4.50			
28.93	10	1.1499	1.0424	.1075	.0777	4.61			
37.61	13	1.0768	.9690	.1078	.0779	4.60			
43.40	15	1.0917	.9832	.1075	.0777	4.61			
52.08	18	1.1343	1.0265	.1078	.0778	4.63			
57.86	20	1.1447	1.0363	.1084	.0776	4.76			
66.54	23	1.0477	.9391	.1086	.0777	4.78			

E.C.G. INC.

G NOME - CAMERA RD 13 #81150					NAME			DATE		JOB NO.
1	2	3	4	5	6	7	8			
(msec)	FRAME	(5.00 in.)	(5.00 in.)	(5.00 in.)	(5.00 in.)	(Act. in.)	(ACT. IN. ADJUSTED)			
72.33	25	1.0870	.9786	.1084	.0779	4.70				
81.01	28	1.0961	.9874	.1087	.0778	4.76				
86.80	30	1.1246	1.0160	.1086	.0780	4.70				
95.47	33	1.0670	.9573	.1097	.0778	4.92				
101.26	35	1.1001	.9907	.1093	.0776	4.71				
109.94	38	1.1031	.9931	.1100	.0780	4.92				
115.73	40	1.1409	1.0313	.1076	.0776	4.94				
124.41	43	1.0696	.9593	.1103	.0779	4.99				
130.19	45	1.0649	.9545	.1104	.0776	5.08				
138.87	48	1.1154	1.0050	.1104	.0776	5.08				
144.66	50	1.1114	1.0004	.1110	.0775	5.18				
153.34	53	1.0895	.9286	.1109	.0777	5.12				
159.12	55	1.1026	.9923	.1103	.0777	5.04				
167.80	58	1.1284	1.0178	.1106	.0777	5.08				
173.69	60	1.1239	1.0131	.1108	.0779	5.06				
182.27	63	1.0892	.9773	.1119	.0776	5.30				
188.06	65	1.0841	.9724	.1117	.0776	5.27				
196.74	68	1.1029	.9917	.1112	.0772	5.28				
202.52	70	1.0932	.9817	.1115	.0774	5.29				
211.20	73	1.0802	.9669	.1133	.0780	5.44				
216.99	75	1.1156	1.0018	.1128	.0778	5.56				
225.67	78	1.1320	1.0160	.1160	.0777	5.92				
231.45	80	1.1124	.9935	.1189	.0777	6.36				
240.13	83	1.0886	.9621	.1265	.0773	7.63				
246.92	85	1.0745	.9401	.1344	.0772	8.89				
254.60	88	1.1277	.9797	.1480	.0770	11.06				
260.39	90	1.1332	.9757	.1575	.0773	12.46				
269.07	93	1.1330	.9613	.1717	.0772	14.69				
274.85	95	1.1586	.9786	.1800	.0765	16.24				
283.53	98	1.1581	.9653	.1928	.0763	18.32				
289.32	100	1.1607	.9591	.2016	.0765	19.62				
298.00	103	1.0620	.9254	.1366	.1565	8.95	20.95			
303.78	105	1.1279	.9829	.1450	.1559	10.32	22.32			
310.46	108	1.0314	.8743	.1571	.1559	12.18	24.18			
318.25	110	1.1126	.9476	.1650	.1559	13.40	25.40			
326.93	113	1.0297	.8534	.1763	.1549	15.32	27.32			
347.18	120	1.0715	1.0631	.0084	.0399	1.26	31.26			
355.86	123	1.0142	.9937	.0205	.0396	3.11	33.11			
361.65	125	1.0294	.9912	.0282	.0397	5.77	35.77			
370.33	128	1.0032	.9652	.0480	.0392	7.34	37.34			

E.G.G. INC.

GNOME-CAMERA RDM # 81159					NAME		DATE		JOB NO.
1	2	3	4	5	6	7			
(msec)	FRAME	(film in.)	(film in.)	(film in.)	(film in.)	(ACT. IN.)			
-93.32	-38	1.0394	1.0274	.0070	.0418	4.01			
-88.41	-36	.9851	.9783	.0068	.0415	3.94			
-83.50	-34	.9728	.9661	.0067	.0410	3.81			
-78.59	-32	1.0023	.9953	.0070	.0411	4.08			
-73.67	-30	1.0570	1.0497	.0073	.0414	4.22			
-68.76	-28	1.0298	1.0230	.0068	.0412	3.96			
-63.85	-26	1.0183	1.0111	.0072	.0416	4.15			
-58.94	-24	1.0670	1.0603	.0067	.0413	3.89			
-54.03	-22	1.0485	1.0411	.0074	.0413	4.30			
-49.12	-20	1.0444	1.0371	.0073	.0414	4.22			
-44.20	-18	1.0380	1.0307	.0073	.0412	4.25			
-39.29	-16	1.0509	1.0431	.0078	.0415	4.51			
-34.38	-14	1.0858	1.0784	.0074	.0414	4.30			
-29.47	-12	1.0504	1.0428	.0076	.0412	4.42			
-24.56	-10	1.0433	1.0360	.0073	.0414	4.22			
-22.10	-9	.9975	.9897	.0078	.0415	4.51			
-19.65	-8	.9942	.9864	.0078	.0413	4.54			
-17.19	-7	.9708	.9627	.0081	.0415	4.68			
-14.73	-6	1.0371	1.0294	.0077	.0417	4.44			
-12.28	-5	1.0016	.9941	.0075	.0415	4.34			
-9.82	-4	1.0425	1.0345	.0080	.0414	4.63			
-7.37	-3	1.0660	1.0582	.0078	.0415	4.51			
-4.91	-2	.9863	.9786	.0077	.0416	4.44			
-2.46	-1	1.0437	1.0357	.0080	.0413	4.66			
0	0	1.0668	1.0593	.0075	.0413	4.37			
2.46	1	1.0544	1.0473	.0071	.0412	4.13			
4.91	2	1.0505	1.0431	.0074	.0413	4.30			
7.37	3	1.0615	1.0536	.0079	.0412	4.61			
9.82	4	1.0544	1.0462	.0082	.0405	4.85			
12.28	5	1.0611	1.0531	.0080	.0415	4.63			
14.73	6	1.0753	1.0672	.0081	.0418	4.66			
17.19	7	1.1082	1.1007	.0075	.0415	4.34			
19.65	8	1.0919	1.0843	.0076	.0415	4.39			
22.10	9	1.0922	1.0844	.0078	.0413	4.54			
24.56	10	1.0963	1.0882	.0081	.0416	4.68			
27.01	11	1.0782	1.0701	.0081	.0418	4.66			
29.47	12	1.0614	1.0533	.0081	.0413	4.70			
31.93	13	1.0377	1.0302	.0075	.0415	4.34			
34.38	14	.9949	.9872	.0077	.0415	4.46			
36.84	15	1.0426	1.0343	.0083	.0415	4.80			

E.G.G. INC.

GNOME-CAMERA RD 14 # 8/1/59					NAME		DATE		JOB NO.
1	2	3	4	5	6	7			
(msec)	FRAME	(film in.)	(film in.)	(film in.)	(film in.)	(ACT. in.)			
39.29	16	1.0533	1.0455	.0078	.0414	4.51			
41.75	17	1.0533	1.0455	.0078	.0413	4.54			
44.20	18	1.0282	1.0201	.0081	.0415	4.68			
46.66	19	1.0557	1.0481	.0076	.0414	4.42			
49.12	20	1.0667	1.0588	.0079	.0408	4.66			
51.57	21	1.0690	1.0615	.0075	.0415	4.34			
54.03	22	1.0650	1.0575	.0075	.0413	4.37			
56.48	23	1.0744	1.0666	.0078	.0418	4.49			
58.94	24	1.0165	1.0080	.0085	.0420	4.85			
61.39	25	1.0424	1.0340	.0084	.0413	4.87			
63.85	26	1.0440	1.0361	.0079	.0415	4.56			
66.31	27	1.0335	1.0253	.0082	.0415	4.70			
68.76	28	1.0186	1.0104	.0082	.0417	4.73			
71.22	29	.9711	.9627	.0084	.0415	4.85			
73.67	30	1.0095	1.0012	.0083	.0418	4.78			
76.13	31	1.0547	1.0467	.0080	.0413	4.66			
78.59	32	1.0102	1.0021	.0081	.0417	4.66			
81.04	33	.9634	.9559	.0075	.0411	4.37			
83.50	34	1.0510	1.0428	.0082	.0414	4.75			
85.95	35	1.0365	1.0282	.0083	.0418	4.78			
88.41	36	1.0314	1.0232	.0082	.0414	4.75			
90.86	37	1.0234	1.0149	.0085	.0416	4.90			
93.32	38	1.0473	1.0387	.0086	.0419	4.92			
95.78	39	1.0671	1.0592	.0079	.0416	4.56			
98.23	40	1.0839	1.0759	.0080	.0417	4.61			
100.69	41	1.1019	1.0937	.0082	.0414	4.75			
103.14	42	1.0034	.9952	.0082	.0413	4.78			
105.60	43	1.0366	1.0282	.0084	.0415	4.85			
108.06	44	1.0725	1.0641	.0084	.0418	4.82			
110.51	45	1.0990	1.0903	.0087	.0415	5.04			
112.97	46	1.0986	1.0903	.0083	.0417	4.78			
115.42	47	1.0399	1.0314	.0085	.0411	4.97			
117.88	48	.9855	.9774	.0081	.0413	4.70			
120.33	49	.9501	.9417	.0084	.0414	4.87			
122.79	50	.9485	.9402	.0083	.0414	4.80			
125.25	51	.9604	.9516	.0088	.0417	5.06			
127.70	52	1.0488	1.0404	.0084	.0415	4.85			
130.16	53	1.0321	1.0235	.0086	.0415	4.97			
132.61	54	1.0166	1.0076	.0090	.0414	5.21			
135.07	55	1.0575	1.0487	.0088	.0417	5.06			

E.O.B.G. INC.

GNOME-CAMERA RD 14 # 81159					NAME		DATE		JOB NO.
1	2	3	4	5	6	7			
(msec.)	FRAME	(Film in.)	(Film in.)	(Film in.)	(Film in.)	(ACT. IN.)			
137.52	56	1.0423	1.0340	.0083	.0416	4.80			
139.98	57	1.0252	1.0168	.0084	.0413	4.87			
142.44	58	1.0190	1.0104	.0086	.0416	4.97			
144.89	59	1.0197	1.0115	.0082	.0411	4.80			
147.35	60	1.0372	1.0288	.0084	.0414	4.87			
149.80	61	1.0544	1.0459	.0085	.0413	4.94			
152.26	62	1.0391	1.0309	.0082	.0413	4.78			
154.72	63	1.0469	1.0383	.0086	.0417	4.94			
157.17	64	1.0753	1.0663	.0090	.0418	5.16			
159.63	65	1.1054	1.0970	.0084	.0414	4.87			
162.08	66	1.1410	1.1324	.0086	.0416	4.97			
164.54	67	1.0823	1.0741	.0082	.0412	4.78			
166.99	68	.9957	.9869	.0088	.0416	5.09			
169.45	69	.9705	.9612	.0093	.0415	5.38			
171.91	70	.9763	.9680	.0083	.0416	4.80			
176.82	72	1.0530	1.0444	.0086	.0417	4.94			
181.73	74	1.0702	1.0615	.0087	.0416	5.02			
186.64	76	1.0523	1.0502	.0091	.0419	5.21			
191.55	78	1.0878	1.0793	.0095	.0414	5.50			
196.46	80	1.0833	1.0738	.0095	.0422	5.40			
201.38	82	1.0978	1.0891	.0087	.0416	5.02			
206.29	84	1.0494	1.0406	.0088	.0416	5.09			
211.20	86	.9885	.9793	.0092	.0415	5.33			
216.11	88	.9975	.9889	.0086	.0401	5.14			
221.02	90	1.0487	1.0387	.0100	.0412	5.83			
225.93	92	1.0450	1.0339	.0111	.0416	6.41			
230.85	94	1.0815	1.0620	.0125	.0420	7.15			
235.76	96	1.0614	1.0476	.0138	.0413	8.02			
240.67	98	1.0604	1.0450	.0154	.0410	9.02			
245.58	100	1.1060	1.0887	.0173	.0414	10.03			
250.49	102	1.1033	1.0839	.0196	.0414	11.35			
255.40	104	1.0470	1.0251	.0219	.0410	12.82			
260.31	106	1.0377	1.0142	.0235	.0410	13.75			
265.23	108	1.0500	1.0247	.0253	.0413	14.71			
270.14	110	1.0875	1.0537	.0278	.0409	16.32			
275.05	112	1.1261	1.0957	.0304	.0410	17.78			
279.96	114	1.0513	1.0193	.0320	.0413	18.60			
284.87	116	1.0011	.9669	.0342	.0410	20.02			
289.78	118	1.0049	.9688	.0361	.0407	21.29			
294.70	120	.9976	.9603	.0373	.0407	21.98			

E.G.G. INC.

GNOME-CAMERA RD 14 #81159					NAME			DATE		JOB NO.
1	2	3	4	5	6	7	8			
(msec.)	FRAME	(film in.)	(film in.)	(film in.)	(film in.)	(ACT. IN.)	(ACT. IN. ADJUSTED)			
299.61	122	1.0863	1.0783	.0380	.0709	22.58				
304.52	124	1.0677	1.0299	.0398	.0707	23.47				
309.43	126	1.0391	1.0378	.0013	.0106	0.79	27.74			
314.34	128	1.1110	1.0681	.0429	.0705	25.42				
319.25	130	ALL	OBSCURED							
324.17	132	"	"							
329.08	134	1.0341	1.0253	.0088	.0106	7.98	28.98			
333.99	136	1.0172	1.0065	.0107	.0107	6.00	30.00			
338.90	138	.9975	.9960	.0015	.0099	0.91	30.91			
343.81	140	1.0225	1.0193	.0032	.0102	1.88	31.88			
348.72	142	1.0018	.9967	.0051	.0101	3.03	33.03			
353.64	144	1.0012	.9946	.0066	.0105	3.77	33.77			
358.55	146	.9881	.9797	.0084	.0104	4.85	34.85			
363.46	148	.9539	.9490	.0049	.0099	5.69	35.69			
368.37	150	.9332	.9320	.0012	.0102	0.71	36.71			
373.28	152	.9711	.9677	.0034	.0102	1.99	37.99			
378.19	154	.9819	.9774	.0045	.0104	2.60	38.60			
383.10	156	1.0091	1.0024	.0067	.0105	3.83	39.83			
388.02	158	1.0042	.9962	.0080	.0101	4.75	40.75			
392.93	160	.9804	.9710	.0094	.0102	5.53	41.53			
397.84	162	.9699	.9686	.0013	.0106	0.74	42.74			
402.75	164	.9580	.9557	.0023	.0102	1.35	43.35			
407.66	166	.9503	.9465	.0038	.0100	2.28	44.28			
412.57	168	.9937	.9883	.0054	.0103	3.14	45.14			
417.49	170	.9800	.9736	.0064	.0099	3.88	45.88			
422.40	172	ALL	OBSCURED							
427.31	174	.9903	.9838	.0065	.0719	3.72	51.72			
432.22	176	.9867	.9793	.0074	.0716	4.27	52.27			
437.13	178	.9666	.9577	.0089	.0715	5.14	53.14			
442.04	180	.9477	.9377	.0100	.0711	5.83	53.83			
446.95	182	.9463	.9351	.0112	.0715	6.48	54.48			
451.86	184	1.0091	.9966	.0125	.0716	7.20	55.20			
456.77	186	.9589	.9492	.0097	.0714	8.23	56.23			
461.68	188	.9800	.9653	.0147	.0713	8.54	56.54			
466.59	190	.9657	.9494	.0163	.0711	9.53	57.53			
471.50	192	.9830	.9652	.0178	.0718	10.22	58.22			
476.41	194	1.0130	.9946	.0184	.0715	10.63	58.63			
481.32	196	1.0086	.9887	.0199	.0713	11.57	59.57			
486.23	198	1.0315	1.0107	.0208	.0713	12.10	60.10			
491.14	200	1.0532	1.0314	.0218	.0716	12.58	60.58			

E.G.G. INC.

GNOME-CAMERA RD 14 #81159					NAME			DATE		JOB NO.
1	2	3	4	5	6	7	8			
(msec.)	FRAME	(film in.)	(film in.)	(film in.)	(film in.)	(ACT. in.)	(ACT. in. ADJUSTED)			
520.63	212	1.0456	1.0234	.0222	.0416	12.81	60.81			
525.54	214	1.0438	1.0200	.0238	.0411	13.90	61.90			
530.45	216	1.0431	1.0186	.0245	.0410	14.35	62.35			
535.36	218	1.0247	.9990	.0257	.0408	15.12	63.12			
540.28	220	1.0091	.9820	.0271	.0414	15.72	63.72			
545.19	222	1.0249	.9972	.0277	.0411	16.18	64.18			
550.10	224	1.0260	.9973	.0287	.0407	16.92	64.92			
555.01	226	1.0140	.9842	.0298	.0414	17.28	65.28			
559.92	228	1.0142	.9842	.1100	.1205	65.74				
564.83	230	1.0604	.9885	.0719	.0816	42.29	66.29			
569.75	232	1.0446	.9722	.0724	.0807	43.06	67.06			
574.66	234	.9814	.9182	.0632	.0712	37.30	67.30			
579.57	236	1.0416	.9874	.0542	.0612	31.90	67.90			
584.48	238	3A4L 085CURED								
613.95	250	.9353	.8954	.0399	.0412	23.23	71.23			
618.86	252	.9796	.9391	.0405	.0411	23.64	71.64			
623.77	254	.9644	.9233	.0411	.0415	23.76	71.76			
628.68	256	.9642	.9228	.0414	.0414	24.00	72.00			
633.60	258	.9778	.9361	.0417	.0415	24.12	72.12			
638.51	260	1.0034	.9613	.0421	.0412	24.53	72.53			
643.42	262	.9741	.9327	.0414	.0426	23.33	71.33			
648.33	264	.9762	.9318	.0444	.0416	25.61	73.61			
653.24	266	.9318	.9285	.0033	.0211	1.87	73.87			
658.15	268	.9576	.9538	.0038	.0209	2.18	74.18			
663.07	270	1.0023	.9975	.0048	.0209	2.76	74.76			
668.00	272	.9979	.9928	.0051	.0211	2.90	74.90			
672.89	274	1.0266	1.0209	.0057	.0213	3.23	75.23			
677.80	276	1.0310	1.0252	.0058	.0209	3.34	75.34			
682.71	278	1.0040	.9972	.0068	.0208	3.92	75.92			
687.63	280	.9858	.9785	.0073	.0208	4.21	76.21			
692.54	282	.9793	.9712	.0081	.0210	4.63	76.63			
697.45	284	.9646	.9561	.0085	.0212	4.81	76.81			
702.36	286	.9390	.9305	.0085	.0210	4.86	76.86			
707.27	288	.9500	.9410	.0090	.0212	5.10	77.10			
712.18	290	.9592	.9580	.0512	.0630	29.27	77.27			
717.09	292	3A4L 085CURED								
726.92	296	.9556	.9447	.0109	.0213	6.14	78.14			
731.83	298	.9763	.9645	.0118	.0217	6.53	78.53			
736.74	300	.9268	.9151	.0117	.0218	6.44	78.44			
741.65	302	.9342	.8796	.0546	.0424	30.91	78.91			
746.56	304	.9471	.8918	.0553	.0425	31.22	79.22			
BALL LEAVES FIELD OF VIEW										EG&G INC.

GNOME-CAMERA GSAP TT # 81166					NAME		DATE		JOB NO.
1	2	3	4	5	6	7			
(msec.)	FRAME	(film in.)	(film in.)	(film in.)	(film in.)	(ACT. IN.)			
-390.6	-25	.9810	.9752	.0058	.0305	4.56			
-375.0	-24	.9882	.9823	.0059	.0305	4.64			
-359.4	-23	1.0433	1.0376	.0057	.0304	4.50			
-343.8	-22	1.0712	1.0652	.0060	.0308	4.68			
-328.1	-21	1.0433	1.0375	.0058	.0306	4.55			
-312.5	-20	1.0372	1.0313	.0059	.0309	4.58			
-296.9	-19	1.0070	1.0014	.0056	.0306	4.39			
-281.3	-18	1.0130	1.0073	.0057	.0304	4.50			
-265.6	-17	1.0579	1.0523	.0056	.0304	4.72			
-250.0	-16	.9821	.9765	.0056	.0303	4.44			
-234.4	-15	1.0240	1.0182	.0058	.0308	4.52			
-218.8	-14	1.0432	1.0376	.0056	.0307	4.38			
-203.1	-13	.9975	.9915	.0060	.0308	4.68			
-187.5	-12	1.0558	1.0501	.0057	.0308	4.44			
-171.9	-11	1.0327	1.0272	.0055	.0308	4.22			
-156.3	-10	.9729	.9676	.0053	.0304	4.18			
-140.6	-9	.9709	.9650	.0059	.0306	4.63			
-125.0	-8	1.0104	1.0042	.0062	.0313	4.75			
-109.4	-7	1.0159	1.0099	.0060	.0312	4.62			
-93.8	-6	1.0760	1.0701	.0059	.0306	4.63			
-78.1	-5	1.0000	.9940	.0060	.0304	4.74			
-62.5	-4	1.0268	1.0206	.0062	.0308	4.83			
-46.9	-3	1.0227	1.0166	.0061	.0307	4.77			
-31.3	-2	1.0555	1.0491	.0064	.0307	5.00			
-15.6	-1	1.0407	1.0344	.0063	.0309	4.89			
0.	0	1.0498	1.0434	.0064	.0306	5.02			
15.6	1	1.0314	1.0248	.0066	.0309	5.13			
31.3	2	1.0552	1.0486	.0066	.0306	5.18			
46.9	3	1.0413	1.0345	.0068	.0310	5.26			
62.5	4	1.0188	1.0116	.0072	.0312	5.54			
78.1	5	1.0426	1.0358	.0068	.0307	5.32			
93.8	6	1.0052	.9982	.0070	.0307	5.47			
109.4	7	.9976	.9903	.0073	.0308	5.69			
125.0	8	1.0435	1.0359	.0076	.0311	5.86			
140.6	9	1.0403	1.0312	.0071	.0308	5.53			
156.3	10	1.0337	1.0264	.0073	.0310	5.65			
171.9	11	1.0792	1.0719	.0073	.0309	5.67			
187.5	12	1.0786	1.0710	.0076	.0312	5.85			
203.1	13	1.0554	1.0474	.0080	.0309	6.31			
218.8	14	1.0050	.9961	.0089	.0309	6.91			

E.O.B. INC.

GNOME-CAMERA GSAP TT # 81166					NAME		DATE		JOB NO.
1	2	3	4	5	6	7			
(msec.)	FRAME	(film in.)	(film in.)	(film in.)	(film in.)	(ACT. IN.)			
234.4	15	1.0316	1.0318	.0098	.0309	7.61			
250.0	16	1.0284	1.0168	.0116	.0308	9.04			
265.6	17	1.0547	1.0419	.0128	.0305	10.07			
281.3	18	1.0490	1.0347	.0143	.0308	11.14			
296.9	19	1.0552	1.0397	.0155	.0305	12.20			
312.5	20	.9932	.9775	.0157	.0306	12.31			
328.1	21	1.0412	1.0244	.0168	.0306	13.18			
343.8	22	1.0653	1.0480	.0173	.0309	13.44			
359.4	23	1.0689	1.0511	.0178	.0311	13.74			
375.0	24	1.0367	1.0192	.0175	.0307	13.68			
390.6	25	1.0460	1.0286	.0174	.0307	13.60			
406.3	26	1.0450	1.0276	.0174	.0305	13.69			
421.9	27	1.0693	1.0518	.0175	.0308	13.64			
437.5	28	1.0629	1.0465	.0164	.0307	12.82			
453.1	29	1.0173	1.0013	.0160	.0306	12.55			
468.8	30	1.0002	.9845	.0157	.0307	12.27			
484.4	31	1.0009	.9864	.0145	.0307	11.34			
500.0	32	1.0520	1.0388	.0132	.0304	10.42			
515.6	33	1.0516	1.0392	.0124	.0304	9.79			
531.3	34	1.0132	1.0020	.0112	.0309	8.70			
546.9	35	1.0513	1.0413	.0100	.0308	7.79			
562.5	36	1.0454	1.0354	.0100	.0306	7.84			
578.1	37	1.0259	1.0156	.0103	.0309	8.00			
593.8	38	.9945	.9844	.0101	.0307	7.90			
609.4	39	1.0003	.9902	.0101	.0306	7.92			
625.0	40	.9980	.9880	.0100	.0306	7.84			
640.6	41	1.0136	1.0036	.0100	.0307	7.82			
656.3	42	1.0182	1.0086	.0096	.0308	7.48			
671.9	43	1.0200	1.0109	.0091	.0306	7.14			
687.5	44	1.0478	1.0393	.0085	.0300	6.80			
703.1	45	1.0626	1.0541	.0085	.0305	6.69			
718.8	46	1.0131	1.0052	.0079	.0302	6.28			
734.4	47	1.0366	1.0287	.0079	.0302	6.28			
750.0	48	1.0304	1.0226	.0078	.0306	6.12			
765.6	49	1.0147	1.0068	.0079	.0300	6.32			
781.3	50	1.0247	1.0172	.0075	.0298	6.04			
796.9	51	1.0297	1.0217	.0080	.0300	6.40			
812.5	52	.9788	.9707	.0081	.0297	6.55			
828.1	53	.9862	.9788	.0081	.0299	6.50			
843.8	54	1.0361	1.0284	.0077	.0295	6.26			

E.C.G. INC.

G NOME-CAMERA GSAP 77 # 81166					NAME		DATE		JOB NO.
1	2	3	4	5	6	7			
(msec.)	FRAME	(film in.)	(film in.)	(film in.)	(film in.)	(act. in.)			
859.4	55	1.0470	1.0388	.0082	.0300	6.56			
875.0	56	1.0332	1.0250	.0082	.0300	6.56			
890.6	57	1.0820	1.0739	.0086	.0300	6.88			
906.3	58	1.0480	1.0393	.0087	.0300	6.96			
921.9	59	1.0421	1.0331	.0090	.0300	7.20			
937.5	60	1.0306	1.0211	.0095	.0306	7.45			
953.1	61	1.0456	1.0360	.0096	.0304	7.58			
968.8	62	1.0776	1.0680	.0096	.0304	7.58			
984.4	63	1.0719	1.0621	.0098	.0305	7.71			
1000.0	64	1.0396	1.0297	.0099	.0305	7.79			
1015.6	65	1.0068	.9970	.0098	.0303	7.76			
1031.3	66	1.0293	1.0192	.0101	.0308	7.87			
1046.9	67	1.0895	1.0796	.0099	.0307	7.74			
1062.5	68	1.0739	1.0637	.0102	.0303	8.08			
1078.1	69	1.0950	1.0847	.0103	.0304	8.13			
1093.8	70	1.1410	1.1307	.0103	.0307	8.05			
1109.4	71	1.1314	1.1210	.0104	.0304	8.21			
1125.0	72	.9765	.9658	.0107	.0307	8.36			
1140.6	73	.9912	.9803	.0109	.0306	8.55			
1156.3	74	1.0348	1.0236	.0112	.0310	8.67			
1171.9	75	1.0537	1.0424	.0113	.0302	8.98			
1187.5	76	1.0187	1.0069	.0118	.0308	9.19			
1203.1	77	1.0248	1.0129	.0119	.0307	9.30			
1218.8	78	1.0582	1.0462	.0120	.0304	9.47			
1234.4	79	1.0479	1.0356	.0123	.0307	9.62			
1250.0	80	1.0620	1.0493	.0127	.0307	9.93			
1265.6	81	1.0713	1.0585	.0128	.0308	9.97			
1281.3	82	1.0900	1.0776	.0124	.0305	9.78			
1296.9	83	1.0642	1.0516	.0126	.0305	9.91			
1312.5	84	1.0492	1.0365	.0127	.0301	10.13			
1328.1	85	1.0546	1.0417	.0129	.0305	10.15			
1343.8	86	1.0110	.9977	.0133	.0306	10.43			
1359.4	87	1.0158	1.0025	.0133	.0308	10.36			
1375.0	88	1.0624	1.0488	.0136	.0307	10.63			
1390.6	89	1.0437	1.0301	.0136	.0308	10.60			
1406.3	90	1.0336	1.0200	.0136	.0309	10.56			
1421.9	91	1.0213	1.0069	.0144	.0313	11.04			
1437.5	92	1.0411	1.0269	.0142	.0310	10.99			
1453.1	93	1.0240	1.0094	.0146	.0310	11.30			
1468.8	94	1.0496	1.0355	.0141	.0308	10.99			

E.G.B. INC.

[illegible]

GNOME-CAMERA GSAP 50 # 81160					NAME		DATE		JOB NO.
1	2	3	4	5	6	7			
(msec.)	FRAME	(film in.)	(film in.)	(film in.)	(film in.)	(ACT. in.)			
-768.05	-46	1.0212	1.0163	.0049	.0298	3.94			
-748.85	-39	1.0151	1.0092	.0059	.0301	4.70			
-729.65	-38	1.0077	1.0026	.0051	.0300	4.08			
-710.44	-37	1.0392	1.0336	.0056	.0301	4.46			
-691.24	-36	1.0760	1.0708	.0052	.0298	4.18			
-672.04	-35	1.0776	1.0729	.0047	.0302	3.74			
-652.84	-34	1.0688	1.0640	.0048	.0299	3.86			
-633.64	-33	1.0243	1.0193	.0050	.0303	3.96			
-614.44	-32	1.0501	1.0450	.0051	.0296	4.13			
-595.24	-31	1.0279	1.0230	.0049	.0304	3.86			
-576.04	-30	1.0234	1.0187	.0047	.0296	3.82			
-556.83	-29	1.0753	1.0707	.0046	.0301	3.67			
-537.63	-28	1.0481	1.0433	.0048	.0300	3.84			
-518.43	-27	1.0398	1.0349	.0049	.0304	3.86			
-499.23	-26	1.0576	1.0529	.0047	.0297	3.79			
-480.03	-25	1.0101	1.0051	.0050	.0300	4.01			
-460.83	-24	.9827	.9780	.0047	.0298	3.79			
-441.63	-23	1.0114	1.0067	.0047	.0300	3.77			
-422.43	-22	1.0326	1.0280	.0046	.0299	3.70			
-403.23	-21	1.0728	1.0681	.0047	.0298	3.79			
-384.02	-20	1.0329	1.0281	.0048	.0301	3.82			
-364.82	-19	1.0398	1.0353	.0045	.0297	3.65			
-345.62	-18	1.0504	1.0453	.0051	.0300	4.08			
-326.42	-17	1.0804	1.0758	.0046	.0299	3.70			
-307.22	-16	1.1232	1.1181	.0051	.0304	4.03			
-288.02	-15	1.0596	1.0548	.0048	.0299	3.86			
-268.82	-14	1.0447	1.0400	.0047	.0301	3.74			
-249.62	-13	1.0263	1.0213	.0050	.0301	3.98			
-230.41	-12	.9730	.9681	.0049	.0304	3.86			
-211.21	-11	.9858	.9811	.0047	.0298	3.79			
-192.01	-10	1.0211	1.0165	.0046	.0302	3.65			
-172.81	-9	1.0228	1.0178	.0050	.0302	3.98			
-153.61	-8	1.0455	1.0406	.0049	.0295	3.98			
-134.41	-7	1.0722	1.0676	.0046	.0298	3.70			
-115.21	-6	1.0858	1.0806	.0052	.0302	4.13			
-96.01	-5	1.1064	1.1019	.0045	.0295	3.67			
-76.80	-4	1.1134	1.1080	.0054	.0299	4.34			
-57.60	-3	1.0958	1.0909	.0049	.0297	3.94			
-38.40	-2	1.1062	1.1014	.0048	.0300	3.84			
-19.20	-1	1.1000	1.0950	.0050	.0297	4.03			

E.O.S. INC.

GNOME-CAMERA GSAP 50 # 81160					NAME			DATE		JOB NO.
1	2	3	4	5	6	7	8			
(msec.)	FRAME	(film in.)	(film in.)	(film in.)	(film in.)	(ACT. IN.)	(ACT. IN. ADJUSTED)			
0	0	1.0734	1.0690	.0044	.0302	4.12				
19.20	1	1.0179	1.0128	.0051	.0301	4.06				
38.40	2	1.0112	1.0057	.0055	.0299	4.42				
57.60	3	.9842	.9789	.0053	.0299	4.25				
76.80	4	.9857	.9804	.0053	.0300	4.25				
96.01	5	1.0178	1.0120	.0058	.0300	4.63				
115.21	6	1.0447	1.0394	.0053	.0300	4.25				
134.41	7	1.0865	1.0808	.0057	.0298	4.58				
153.61	8	1.0660	1.0602	.0058	.0300	4.64				
172.81	9	1.0507	1.0449	.0058	.0299	4.66				
192.01	10	1.0801	1.0740	.0061	.0303	4.82				
211.21	11	1.0582	1.0523	.0059	.0300	4.73				
230.41	12	1.0141	1.0077	.0064	.0301	5.11				
249.62	13	.9519	.9448	.0071	.0297	5.74				
268.82	14	.9647	.9548	.0099	.0300	7.92				
288.02	15	1.0330	1.0180	.0150	.0297	12.12				
307.22	16	1.0111	.9910	.0201	.0297	16.25				
326.42	17	1.0135	.9884	.0251	.0295	20.42				
345.62	18	3ALL	OBSCURED							
364.82	19	.9804	.9751	.0053	.0076	4.18	28.18			
384.02	20	.9875	.9853	.0022	.0073	1.81	31.81			
403.23	21	.9724	.9661	.0063	.0068	5.56	35.56			
422.43	22	.9624	.9658	.0036	.0073	2.96	38.96			
441.63	23	3ALL	OBSCURED							
460.83	24	.9486	.9452	.0034	.0073	2.80	44.80			
480.03	25	.9395	.9335	.0060	.0070	5.14	47.14			
499.23	26	.9311	.9292	.0019	.0298	0.38	48.38			
518.43	27	.9617	.9556	.0061	.0298	4.92	52.92			
537.63	28	.9225	.9140	.0085	.0301	6.77	54.77			
556.83	29	.9156	.9038	.0118	.0297	9.53	57.53			
576.04	30	.9438	.9294	.0144	.0296	11.66	59.66			
595.24	31	.9302	.9133	.0169	.0298	13.61	61.61			
614.44	32	.9484	.9289	.0195	.0296	15.82	63.82			
633.64	33	.9105	.8887	.0218	.0297	17.62	65.62			
652.84	34	.9671	.9438	.0233	.0295	18.96	66.96			
672.04	35	.9516	.9258	.0258	.0294	21.07	69.07			
691.24	36	1.0036	.9470	.0566	.0584	46.51	70.51			
710.44	37	3ALL	OBSCURED							
729.64	38	1.0011	.9630	.0321	.0294	26.21	74.21			
748.84	39	1.0298	.9967	.0331	.0300	26.47	74.47			

E.G.G. INC.

GNOME-CAMERA GSAP 3 # 81163					NAME		DATE		JOB NO.
1	2	3	4	5	6	7			
(msec.)	FRAME	(film in.)	(film in.)	(film in.)	(film in.)	(ACT. IN.)			
-390.6	-25	1.0096	.9944	.0152	.0303	12.04			
-375.0	-24	1.0522	1.0372	.0150	.0299	12.04			
-359.4	-23	.9199	.9049	.0150	.0299	12.04			
-343.8	-22	.9596	.9435	.0161	.0303	12.75			
-328.1	-21	1.0024	.9863	.0161	.0305	12.67			
-312.5	-20	1.0876	1.0718	.0158	.0302	12.56			
-296.9	-19	1.0265	1.0106	.0159	.0301	12.68			
-281.3	-18	1.0058	.9893	.0165	.0303	13.07			
-265.6	-17	1.0292	1.0133	.0159	.0301	12.68			
-250.0	-16	1.0397	1.0235	.0162	.0302	12.87			
-234.4	-15	1.0386	1.0219	.0167	.0303	13.23			
-218.8	-14	1.0271	1.0100	.0171	.0308	13.32			
-203.1	-13	1.0026	.9860	.0166	.0301	13.24			
-187.5	-12	1.0116	.9941	.0175	.0303	13.86			
-171.9	-11	.9975	.9802	.0173	.0305	13.61			
-156.3	-10	.9709	.9535	.0174	.0300	13.92			
-140.6	-9	.9938	.9758	.0180	.0307	14.07			
-125.0	-8	.9802	.9621	.0181	.0305	14.24			
-109.4	-7	.9919	.9735	.0184	.0305	14.48			
-93.8	-6	1.0234	1.0054	.0180	.0300	14.40			
-78.1	-5	1.0013	.9834	.0179	.0303	14.18			
-62.5	-4	1.0205	1.0024	.0181	.0305	14.24			
-46.9	-3	1.0278	1.0094	.0184	.0303	14.57			
-31.3	-2	1.0462	1.0278	.0184	.0301	14.67			
-15.6	-1	1.0319	1.0133	.0186	.0302	14.78			
0	0	3945	HIDDEN	BY	FLASH				
15.6	1	.9496	.9311	.0185	.0299	14.86			
31.2	2	1.0205	1.0013	.0192	.0301	15.31			
46.9	3	1.0877	1.0688	.0189	.0298	15.22			
62.5	4	1.0579	1.0386	.0193	.0299	15.48			
78.1	5	1.0492	1.0300	.0192	.0300	15.36			
93.8	6	1.0733	1.0539	.0194	.0301	15.48			
109.4	7	1.0741	1.0548	.0193	.0299	15.48			
125.0	8	1.0920	1.0724	.0196	.0302	15.58			
140.6	9	1.0860	1.0656	.0204	.0304	16.10			
156.3	10	1.0556	1.0355	.0201	.0300	16.08			
171.9	11	1.0393	1.0191	.0202	.0300	16.15			
187.5	12	1.0362	1.0155	.0207	.0302	16.44			
203.1	13	1.0667	1.0455	.0212	.0299	17.02			
218.8	14	1.0601	1.0375	.0226	.0300	18.07			

E.C.B. INC.

GNOME-CAMERA GSAP 3 # 81163					NAME			DATE		JOB NO.
1	2	3	4	5	6	7	8			
(msec.)	FRAME	(Film in.)	(Film in.)	(Film in.)	(Film in.)	(ACT. IN.)	(ACT. IN. ADJUSTED)			
239.4	15	1.0659	1.0703	.0251	.0228	20.21				
250.0	16	1.1007	1.0733	.0274	.0297	22.15				
265.6	17	1.0722	1.0135	.0294	.0295	23.93				
281.3	18	1.0135	1.0135	0	.0081	0	24.00			
296.9	19	1.0150	1.0130	.0020	.0078	1.54	25.54			
312.5	20	1.0263	1.0221	.0042	.0077	3.27	27.27			
328.1	21	1.0136	1.0071	.0065	.0077	5.06	29.06			
343.8	22	.9957	.9874	.0083	.0078	6.38	30.38			
359.4	23	1.0263	1.0247	.0022	.0072	1.84	31.84			
375.0	24	1.0188	1.0146	.0042	.0073	3.45	33.45			
390.6	25	1.0050	.9995	.0055	.0076	4.34	34.34			
406.3	26	1.0092	1.0023	.0069	.0077	5.38	35.38			
421.9	27	1.0035	1.0030	.0005	.0073	0.41	36.41			
437.5	28	1.0173	1.0155	.0018	.0079	1.37	37.37			
453.1	29	1.0290	1.0265	.0025	.0076	1.97	37.97			
468.8	30	1.0250	1.0219	.0031	.0077	2.42	38.42			
484.4	31	1.0671	1.0636	.0035	.0077	2.73	38.73			
500.0	32	1.0269	1.0236	.0033	.0077	3.35	39.35			
515.6	33	1.0393	1.0344	.0049	.0078	3.77	39.77			
531.3	34	1.0517	1.0464	.0053	.0079	4.03	40.03			
546.9	35	1.0139	1.0091	.0048	.0077	3.74	39.74			
562.5	36	1.0085	1.0042	.0043	.0072	3.58	39.58			
578.1	37	1.0114	1.0075	.0039	.0075	3.12	39.12			
593.8	38	1.0313	1.0272	.0041	.0076	3.23	39.23			
609.4	39	1.0281	1.0244	.0037	.0074	3.00	39.00			
625.0	40	1.0347	1.0323	.0024	.0074	1.94	37.94			
640.6	41	1.0302	1.0277	.0025	.0075	2.00	38.00			
656.3	42	1.0520	1.0507	.0013	.0077	1.01	37.01			
671.9	43	1.0423	1.0409	.0014	.0074	1.13	37.13			
687.5	44	1.0619	1.0551	.0068	.0076	5.37	35.37			
703.1	45	1.0477	1.0416	.0061	.0079	4.63	34.63			
718.8	46	1.0533	1.0487	.0046	.0077	3.58	33.58			
734.4	47	1.0540	1.0510	.0030	.0076	2.37	32.37			
750.0	48	1.0793	1.0789	.0004	.0077	0.78	30.78			
765.6	49	1.0618	1.0555	.0063	.0080	4.73	28.73			
781.3	50	1.0653	1.0611	.0042	.0079	3.19	27.19			
796.9	51	1.0394	1.0377	.0017	.0073	1.40	26.40			
812.5	52	1.0749	1.0754	.0005	.0303	23.38				
828.1	53	1.0745	1.0762	.0017	.0300	22.63				
843.8	54	1.0735	1.0756	.0021	.0298	22.46				

E.O.G. INC.

GNOME-CAMERA GSAP 3 # 81163					NAME			DATE		JOB NO.
1	2	3	4	5	6	7	8			
(msec)	FRAME	(film in.)	(film in.)	(film in.)	(film in.)	(ACT. IN.)	(ACT. IN. ADJUSTED)			
853.4	55	1.0849	1.0576	.0273	.0228	21.28				
875.0	56	1.0771	1.0497	.0274	.0228	22.06				
890.6	57	1.0820	1.0545	.0275	.0225	22.37				
906.3	58	1.0770	1.0487	.0283	.0226	22.94				
921.9	59	1.0680	1.0398	.0282	.0285	23.74				
937.5	60	3944	085CURED							
953.1	61	1.0377	1.0353	.0024	.0068	3.12	26.12			
968.8	62	1.0349	1.0302	.0047	.0073	3.86	27.86			
984.4	63	1.0290	1.0232	.0058	.0063	5.53	29.53			
1000.0	64	1.0407	1.0345	.0062	.0071	5.24	29.24			
1015.6	65	1.0434	1.0420	.0014	.0070	6.34	30.34			
1031.3	66	1.0537	1.0460	.0077	.0073	6.33	30.33			
1046.9	67	1.0670	1.0593	.0077	.0074	6.25	30.25			
1062.5	68	1.0748	1.0678	.0070	.0073	5.75	29.75			
1078.1	69	3944	085CURED							
1093.8	70	1.0682	1.0630	.0052	.0075	4.16	28.16			
1109.4	71	1.0821	1.0776	.0045	.0074	3.65	27.65			
1125.0	72	1.0860	1.0818	.0042	.0077	3.27	27.27			
1140.6	73	1.0807	1.0782	.0025	.0069	2.17	26.17			
1156.3	74	1.0700	1.0680	.0020	.0079	1.52	25.52			
1171.9	75	1.0662	1.0657	.0005	.0069	0.43	24.43			
1187.5	76	1.0810	1.0813	-.0003	.0070	-0.26	23.74			
1203.1	77	1.0887	1.0930	-.0003	.0087	-0.20	23.80			
1218.8	78	1.1174	1.1180	-.0006	.0081	-0.44	23.56			
1234.4	79	1.1028	1.1025	.0003	.0085	0.21	24.21			
1250.0	80	1.1073	1.1060	.0013	.0081	0.96	24.96			
1265.6	81	.9340	.9332	.0008	.0086	0.56	24.56			
1281.3	82	.9373	.9369	.0004	.0085	0.28	24.28			
1296.9	83	.9426	.9432	-.0006	.0082	-0.44	23.56			
1312.5	84	.9463	.9475	-.0012	.0085	-0.85	23.15			
1328.1	85	.9728	.9748	-.0020	.0081	-1.48	22.52			
1343.8	86	.9921	1.0016	-.0025	.0082	-1.83	22.17			
1359.4	87	.9960	.9985	-.0028	.0085	-1.76	22.24			
1375.0	88	1.0110	1.0144	-.0034	.0079	-2.58	21.42			
1390.6	89	1.0317	1.0355	-.0038	.0078	-2.92	21.08			
1406.3	90	1.0519	1.0561	-.0042	.0078	-3.23	20.77			
1421.9	91	1.0672	1.0718	-.0046	.0082	-3.36	20.64			
1437.5	92	1.0505	1.0566	-.0061	.0076	-4.82	19.18			
1453.1	93	1.0343	1.0401	-.0058	.0077	-4.52	19.48			
1468.8	94	1.0571	1.0632	-.0068	.0078	-5.23	18.77			

E.C.B.G. INC.

GNOME - CAMERA RD 6 # 81165					NAME		DATE		JOB NO.
1	2	3	4	5	6	7			
(msec.)	FEAMS	(film in.)	(film in.)	(film in.)	(film in.)	(act. in.)			
-375	-75	1.0388	1.0092	.0236	.1538	4.44			
-360	-72	1.0188	.9892	.0296	.1600	4.44			
-345	-69	1.0065	.9769	.0296	.1600	4.44			
-330	-66	1.0182	.9883	.0299	.1600	4.49			
-315	-63	1.0087	.9792	.0295	.1601	4.42			
-300	-60	1.0648	1.0349	.0299	.1597	4.49			
-285	-57	1.0201	.9903	.0298	.1603	4.46			
-270	-54	1.0047	.9749	.0298	.1600	4.46			
-255	-51	1.0184	.9889	.0295	.1598	4.44			
-240	-48	.9941	.9644	.0297	.1602	4.44			
-225	-45	1.0236	.9941	.0295	.1599	4.42			
-210	-42	1.0699	1.0402	.0297	.1601	4.46			
-195	-39	1.0182	.9881	.0301	.1602	4.51			
-180	-36	1.0220	.9918	.0302	.1598	4.54			
-165	-33	.9984	.9689	.0301	.1598	4.51			
-150	-30	1.0177	.9868	.0309	.1600	4.63			
-135	-27	1.0148	.9841	.0307	.1598	4.61			
-120	-24	1.0073	.9762	.0311	.1599	4.66			
-105	-21	1.0113	.9799	.0314	.1602	4.70			
-90	-18	1.0087	.9770	.0317	.1601	4.75			
-75	-15	1.0266	.9944	.0322	.1596	4.85			
-60	-12	1.0207	.9889	.0324	.1602	4.85			
-45	-9	.9895	.9567	.0328	.1597	4.92			
-30	-6	1.0225	.9895	.0330	.1599	4.94			
-15	-3	.9911	.9573	.0338	.1598	5.09			
0	0	1.0408	1.0072	.0336	.1598	5.04			
15	3	1.0575	1.0233	.0342	.1598	5.14			
30	6	1.0954	1.0611	.0343	.1597	5.16			
45	9	1.0311	.9957	.0354	.1602	5.30			
60	12	1.0465	1.0113	.0352	.1600	5.28			
75	15	1.0578	1.0218	.0360	.1601	5.40			
90	18	1.0796	1.0430	.0366	.1602	5.47			
105	21	1.0182	.9810	.0372	.1600	5.59			
120	24	1.0460	1.0084	.0376	.1604	5.62			
135	27	1.0438	1.0062	.0376	.1599	5.64			
150	30	1.0811	1.0423	.0388	.1600	5.83			
165	33	1.0492	1.0101	.0391	.1599	5.88			
180	36	1.0398	1.0000	.0398	.1598	5.98			
195	39	1.0452	1.0049	.0403	.1605	6.02			
210	42	1.0267	.9838	.0429	.1602	6.43			

EG&G INC.

GNOME-CAMERA RD 6 # 81165					NAME		DATE		JOB NO.
1	2	3	4	5	6	7			
(msec)	FRAME	(film in.)	(film in.)	(film in.)	(film in.)	(ACT. IN.)			
225	45	1.0395	.9906	.0489	.1597	7.34			
240	48	1.0790	1.0226	.0564	.1594	8.50			
255	51	1.0471	.9838	.0638	.1591	9.62			
270	54	1.0751	1.0043	.0708	.1594	10.66			
285	57	1.0624	.9858	.0766	.1594	11.54			
300	60	1.0342	.9527	.0815	.1593	12.29			
315	63	1.0380	.9525	.0855	.1593	12.89			
330	66	1.0267	.9376	.0891	.1598	13.39			
345	69	1.1054	1.0149	.0905	.1599	13.58			
360	72	1.0599	.9680	.0919	.1600	13.78			
375	75	1.0509	.9582	.0927	.1600	13.90			
390	78	1.1014	1.0091	.0923	.1596	13.87			
405	81	1.0640	.9718	.0922	.1599	13.85			
420	84	1.0654	.9754	.0900	.1601	13.49			
435	87	1.1126	1.0250	.0876	.1599	13.15			
450	90	1.1096	1.0251	.0845	.1599	12.67			
465	93	1.1210	1.0405	.0815	.1598	12.10			
480	96	1.1298	1.0535	.0763	.1598	11.45			
495	99	1.1061	1.0347	.0714	.1594	10.75			
510	102	1.0872	1.0223	.0649	.1596	9.77			
525	105	1.1090	1.0501	.0589	.1597	8.85			
540	108	1.0726	1.0195	.0531	.1598	7.97			
555	111	1.1423	1.0975	.0524	.1594	7.89			
570	114	1.1062	1.0526	.0536	.1593	8.08			
585	117	1.0948	1.0403	.0545	.1589	8.23			
600	120	1.0826	1.0285	.0540	.1588	8.16			
615	123	1.1112	1.0576	.0536	.1591	8.09			
630	126	1.0923	1.0402	.0521	.1583	7.90			
645	129	1.1127	1.0622	.0505	.1580	7.67			
660	132	1.1230	1.0748	.0490	.1580	7.44			
675	135	1.1145	1.0674	.0471	.1579	7.16			
690	138	1.1313	1.0856	.0467	.1575	6.96			
705	141	1.0985	1.0541	.0444	.1576	6.76			
720	144	1.0508	1.0079	.0429	.1571	6.55			
735	147	1.0739	1.0312	.0427	.1569	6.55			
750	150	1.0870	1.0441	.0429	.1566	6.57			
765	153	1.0351	.9920	.0431	.1560	6.63			
800	160	1.0707	1.0264	.0443	.1557	6.83			
825	165	1.0783	1.0335	.0448	.1553	6.92			
850	170	1.0584	1.0127	.0457	.1559	7.04			

E.O.B. MC

GNOME-CAMERA RD 6 # 81165					NAME			DATE		JOB NO.
1	2	3	4	5	6	7	8			
(msec)	FRAME	(film in.)	(film in.)	(film in.)	(film in.)	(act. in.)	(act. in. adjusted)			
875	175	1.0308	1.0435	1.0473	1.562	7.27				
900	180	1.1167	1.0686	1.0481	1.570	7.35				
925	185	1.0603	1.0113	1.0490	1.577	7.46				
950	190	1.0620	1.0121	1.0499	1.585	7.56				
975	195	1.0646	1.0136	1.0510	1.596	7.67				
1000	200	1.0336	1.0815	1.0521	1.579	7.92				
1025	205	1.1010	1.0701	1.1309	1.0771	20.37	8.37			
1050	210	1.0993	1.0680	1.1313	1.0764	20.62	8.62			
1075	215	1.0722	1.0384	1.1338	1.0777	20.66	8.62			
1100	220	1.0956	1.0602	1.1354	1.0772	21.05	9.05			
1125	225	1.0767	1.0395	1.1372	1.0773	21.30	9.30			
1150	230	1.0871	1.0477	1.1394	1.0772	21.67	9.67			
1175	235	1.1317	1.0311	1.1906	1.0771	21.88	9.88			
1200	240	1.1117	1.0695	1.1422	1.0777	21.96	9.96			
1225	245	1.0534	1.0886	1.0648	1.1602	9.71				
1250	250	1.0569	1.0915	1.0654	1.1599	9.82				
1275	255	1.0941	1.0279	1.0662	1.1598	9.94				
1300	260	1.0668	1.0990	1.0678	1.1598	10.18				
1325	265	1.0875	1.0185	1.0690	1.1602	10.34				
1350	270	1.1102	1.0623	1.1479	1.0777	22.84	10.84			
1375	275	1.1113	1.0626	1.1487	1.0779	22.91	10.91			
1400	280	1.1133	1.0639	1.1494	1.0773	23.19	11.19			
1425	285	1.1363	1.0853	1.1510	1.0777	23.32	11.32			
1450	290	1.0386	1.0647	1.0739	1.1602	11.07				
1475	295	1.0653	1.0901	1.0752	1.1602	11.27				
1500	300	1.1285	1.0533	1.0752	1.1595	11.32				
1525	305	1.0785	1.0964	1.0771	1.1594	11.61				
1550	310	1.0687	1.0904	1.0783	1.1592	11.80				
1575	315	1.0710	1.0918	1.0792	1.1596	11.91				
1600	320	1.0463	1.0663	1.0800	1.1591	12.07				
1625	325	1.0694	1.0880	1.0814	1.1597	12.23				
1650	330	1.0633	1.0812	1.0821	1.1597	12.34				
1675	335	1.0867	1.0538	1.0829	1.1595	12.47				
1700	340	1.0726	1.0906	1.0820	1.1598	12.32				
1725	345	1.0559	1.0756	1.0803	1.1597	12.07				
1750	350	1.1250	1.0475	1.0775	1.1597	11.65				
1775	355	1.0736	1.0012	1.0734	1.1594	11.05				
1800	360	1.0903	1.0306	1.0697	1.1597	10.97				
1825	365	1.0238	1.0269	1.0669	1.1599	10.04				
1850	370	1.0731	1.0082	1.0649	1.1603	9.72				

E.O.B. INC.

GNOME - Transporter - Mitchell (M-25) # 81152										NAME		DATE		JOB NO.
Time (mSec)	FRAME	Film in	Film in	Film in	Film in	Target Act. (m)	Film in	Film in	Target Act. (m)	Film in	Film in	DATE		
-66.0	-5	0.3628	0.2654	0.974	33.94									
-52.8	-4	0.3642	0.2660	0.982	34.22									
-39.6	-3	0.3537	0.2556	0.981	34.19									
-26.4	-2	0.3494	0.2517	0.977	34.05									
-13.2	-1	0.3504	0.2529	0.977	34.05									
0	0	0.3504	0.2535	0.969	33.77									
13.2	1	0.2723	0.1748	0.975	33.98									
26.4	2	0.2705	0.1727	0.978	34.08									
39.6	3	0.2712	0.1822	0.970	33.80									
52.8	4	0.2872	0.1897	0.975	33.98									
66.0	5	0.2893	0.1919	0.974	33.94									
79.2	6	0.2848	0.1872	0.976	34.01									
92.4	7	0.2957	0.1982	0.975	33.98									
105.6	8	0.2943	0.1963	0.980	34.15			0.1965	0.978	34.08				
118.8	9	0.2048	0.1073	0.975	33.98			0.1075	0.973	33.91				
132.0	10	0.2106	0.1131	0.975	33.98			0.1131	0.975	33.98				
145.2	11	0.1566	0.0590	0.976	34.01			0.0591	0.975	33.98				
158.4	12	0.1497	0.0518	0.979	34.12			0.0519	0.978	34.08				
171.6	13	0.1836	0.0855	0.981	34.19			0.0866	0.976	34.01				
184.8	14	0.2045	0.1071	0.974	33.94			0.1074	0.971	33.84				
198.0	15	0.2318	0.1342	0.976	34.01			0.1344	0.974	33.94				
211.2	16	0.2535	0.1557	0.978	34.08			0.1560	0.975	33.98				
224.4	17	0.2784	0.1803	0.971	33.84			0.1814	0.970	33.80				
237.6	18	0.2887	0.1924	0.963	33.56			0.1926	0.961	33.49				
250.8	19	0.2962	0.2001	0.961	33.49			0.2001	0.961	33.49				
264.0	20	0.3081	0.2041	0.960	33.46			0.2042	0.959	33.42				
277.2	21	0.3085	0.2133	0.952	33.18			0.2137	0.948	33.04				
290.4	22	0.2531	0.1586	0.945	32.93			0.1587	0.944	32.90				
303.6	23	0.2746	0.1815	0.931	32.45			0.1820	0.926	32.27				
316.8	24	0.3577	0.2653	0.924	32.20			0.2656	0.921	32.10				

GNOME - Transporter - Mitchell (M-25) # 81152										NAME			DATE		JOB NO.
TIME (mm:ss)	FRAME	FILM IN	FILM IN	FILM IN	TARGET 2 ACT/IN	FILM IN	FILM IN	TARGET 1 ACT/IN							
330.0	25	0.3439	0.2523	0.0916	31.92	0.2527	0.0912	31.78							
343.2	26	0.3367	0.2459	0.0908	31.64	0.2463	0.0904	31.50							
356.4	27	0.3421	0.2527	0.0894	31.16	0.2530	0.0891	31.05							
369.6	28	0.3654	0.2758	0.0896	31.23	0.2764	0.0896	31.02							
382.8	29	0.3770	0.2880	0.0890	31.02	0.2887	0.0883	30.77							
396.0	30	0.2913	0.2030	0.0883	30.77	0.2030	0.0883	30.77							
409.2	31	0.3098	0.2217	0.0881	30.70	0.2218	0.0880	30.67							
422.4	32	0.3110	0.2238	0.0878	30.39	0.2240	0.0870	30.32							
435.6	33	0.3214	0.2343	0.0871	30.35	0.2346	0.0868	30.25							
448.8	34	0.3215	0.2351	0.0864	30.11	0.2353	0.0862	30.04							
462.0	35	0.3402	0.2540	0.0862	30.04	0.2540	0.0862	30.04							
475.2	36	DOUBLE IMAGE													
488.4	37	0.3557	0.2704	0.0853	29.73	0.2704	0.0853	29.73							
501.6	38	0.3732	0.2878	0.0854	29.76	0.2882	0.0850	29.62							
514.8	39	0.3821	0.2976	0.0845	29.45	0.2976	0.0845	29.45							
528.0	40	DOUBLE IMAGE													
541.2	41	0.3070	0.2234	0.0846	29.48	0.2237	0.0843	29.38							
554.4	42	0.2967	0.2118	0.0849	29.59	0.2119	0.0848	29.55							
567.6	43	0.3250	0.2411	0.0839	29.24	0.2415	0.0835	29.10							
580.8	44	DOUBLE IMAGE													
594.0	45	"	"	"											
		"	"	"											
673.2	51	0.3104	0.2281	0.0823	28.68	0.2284	0.0820	28.58							
686.4	52	0.2483	0.1660	0.0823	28.68	0.1662	0.0821	28.61							
		DOUBLE IMAGE													
739.2	56	0.2472	0.1659	0.0813	28.33	0.1661	0.0811	28.26							
		DOUBLE IMAGE													
792.0	60	0.2390	0.1572	0.0818	28.51	0.1572	0.0818	28.51							
		DOUBLE IMAGE													
818.4	62	0.1473	0.0662	0.0811	28.26	0.0662	0.0811	28.26							

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	81,162		
	81,163		
	81,165		
PL-2	81,152	9	EG&G (2)
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